TOSHIBA

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SERVICE MANUAL

LCD Color Television

32HLX95

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⚠ SERVICE SAFETY PRECAUTIONS

- The caution items shown here describe major safety issues and should always be observed.
- The meanings of the various indications are as follows.

⚠ **WARNING**	Indicates a hypothetical situation in which service personnel and nearby third parties, or even end users due to a product defect after the service operation is completed, could possibly be in danger of injury or even death in the event of operational error.
⚠ **CAUTION**	Indicates a hypothetical situation in which service personnel and nearby third parties, or even end users after the service operation is completed, could possibly be in danger of injury, or where there could be physical damage in the event of operational error.

* Physical damage means major damage to a home, furnishings and other possessions.

Examples of marks

SHOCK HAZARD	The △ indicates caution (including danger and warning). The actual meaning of this caution is indicated inside the △ or nearby illustrations or text. The example shown to the left indicates the danger of "electrical shock".
PROHIBIT DISASSEMBLING	The ⃠ indicates a forbidden action. The actual meaning of this caution is indicated inside the ⃠ or nearby illustrations or text. The example shown to the left indicates that disassembly is forbidden.
UNPULUG	The ● indicates a forced action (an action that must be performed). The actual meaning of this forced action is indicated by ● or nearby illustrations or text. The example shown to the left indicates that the power plug must be disconnected.

	⚠ WARNING
KEEP CHILDREN AWAY	• Always advise users to keep children away. There is danger of injury to children from tools, disassembled products, etc.
UNPULUG	• Always disconnect the power plug before starting work whenever power is not required. Failure to disconnect the power plug before starting work can result in electrical shock.
SHOCK HAZARD	• Depending on the model, use an insulation transformer or wear gloves when servicing with the power on, and disconnect the power plug to avoid electrical shock when replacing parts. In some cases, alternating current is also impressed in the chassis, so electrical shock is possible if the chassis is contacted with the power on.
USE SPECIFIED PARTS	• Always use the replacement parts specified for the particular model when making repairs. The parts used in products have the necessary safety characteristics such as inflammability, voltage resistance, etc.; therefore, use only replacement parts that have these same characteristics. Use only the specified parts when the ⚠ mark is included in a circuit diagram or parts list.
CAUTION FOR WIRING	• Parts mounting and routing of the wiring should be the same as that used originally. For safety purposes, insulating materials such as tubing or tape is sometimes used and printed circuit boards are sometimes mounted floating. Also make sure that wiring is routed and clamped to avoid parts that generate heat and which use high voltage. Always follow the original scheme.
CAUTION FOR ASSEMBLING / WIRING	• After a repair has been completed, reassemble all disassembled parts, and route and reconnect the wiring, in accordance with the original scheme. Do not allow internal wiring to be pinched by cabinets, panels, etc. Any error in reassembly or wiring can result in electrical leakage, flame, etc., and may be hazardous.
CHECK INSULATION RESISTANCE	• After completing the work, disconnect the power plug from the outlet, remove the antenna, turn on the power switch. Then, use a 500V insulation resistance meter to check the insulation resistance of the antenna terminal, other metallic parts and between the prongs of the power plug to make sure that the insulation resistance is 1M Ω or more. The set will require inspection and repair if the insulation resistance is below this value.
PROHIBIT REMODELING	• Never remodel the product in any way. Remodeling can result in improper operation, malfunction, or electrical leakage and flame, which may be hazardous

HANDLING THE LCD MODULE

Safety Precautions

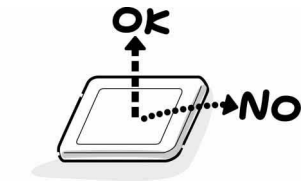
In the event that the screen is damaged or the liquid crystal (fluid) leaks, do not breathe in or drink this fluid. Also, never touch this fluid.

Such actions could cause toxicity or skin irritation. If this fluid should enter the mouth, rinse the mouth thoroughly with water. If the fluid should contact the skin or clothing, wipe off with alcohol, etc., and rinse thoroughly with water. If the fluid should enter the eyes, immediately rinse the eyes thoroughly with running water.

Precautions for Handling the LCD Module

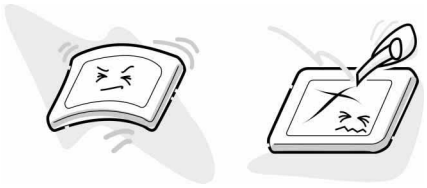
The LCD module can easily be damaged during disassembly or reassembly; therefore, always observe the following precautions when handling the module.

1. When attaching the LCD module to the LCD cover, position it appropriately and fasten at the position where the display can be viewed most conveniently.



2. Carefully align the holes at all four corners of the LCD module with the corresponding holes in the LCD cover and fasten with screws. Do not strongly push on the module because any impact can adversely affect the performance. Also use caution when handling the polarized screen because it can easily be damaged.

CAUTION	The metal edges of the LCD module are sharp, so use caution to avoid injury.

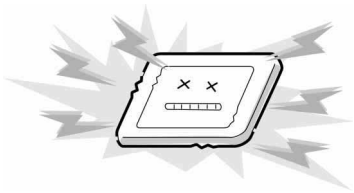


3. If the panel surface becomes soiled, wipe with cotton or a soft cloth. If this does not remove the soiling, breathe on the surface and then wipe again.
   If the panel surface is extremely solied, use a CRT cleaner as a cleaner. Wipe off the panel surface by drop the cleaner on the cloth. Do not drop the cleaner on the panel. Pay attention not to scratch the panel surface.

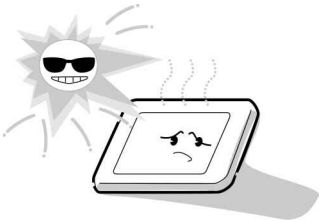
4. Leaving water or other fluids on the panel screen for an extended period of time can result in discoloration or stripes. Immediately remove any type of fluid from the screen.

5. Glass is used in the panel, so do not drop or strike with hard objects. Such actions can damage the panel.

6. CMOS-LSI circuitry is used in the LCD module, so avoid damage due to static electricity. When handling the module, use a wrist ground or anchor ground.

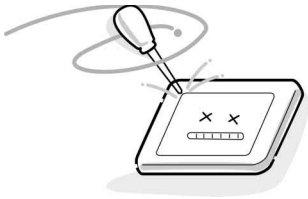


7. Do not expose the LCD module to direct sunlight or strong ultraviolet rays for an extended period of time.

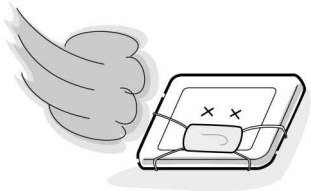


8. Do not store the LCD module below the temperature conditions described in the specifications. Failure to do so could result in freezing of the liquid crystal due to cold air or loss of resilience or other damage.

9. Do not disassemble the LCD module. Such actions could result in improper operation.



10. When transporting the LCD module, do not use packing containing epoxy resin (amine) or silicon resin (alcohol or oxim). The gas generated by these materials can cause loss of polarity.



Safety Precautions for Laser Beam (DVD Player)

Do not look into the opening of the disc slot or ventilation opening of the product to see the source of the laser beam. It may cause sight damage.

SERVICE MODE

1. ENTERING SERVICE MODE

1) Press MUTE button twice on Remote Control.

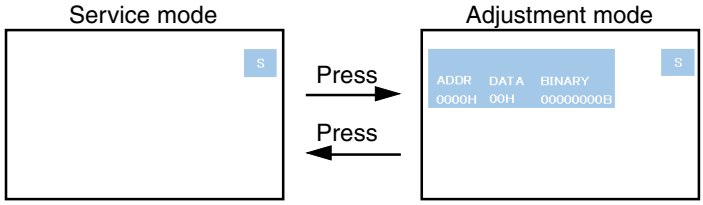
2) Press MUTE button again and keep pressing.

3) While pressing the MUTE button, press MENU button on TV set.

(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on Remote Control.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

Test signal selection :	TV/VIDEO button (on Remote)
Selection of the adjustment items :	Channel ▲ / ▼(on TV or Remote)
Change of the data value :	Volume ◀ / ▶ (on TV) or ▲ / ▼ (on Remote)
Adjustment menu mode ON/OFF :	MENU button (on Remote)
Initialization of the memory :	CALL + Channel button on TV (▲)
Reset the count of operating protect circuit to “00” :	CALL + Channel button on TV (▼)
“RCUT” selection :	1 button
“GCUT” selection :	2 button
“BCUT” selection :	3 button
“CNTX” selection :	4 button
“COLC” selection :	5 button ------Color thickness correction
“UVTT” selection :	6 button
Automatic A/D Adjustment(PC, Component) :	7 button
Self diagnostic display ON/OFF :	9 button

note: Displayed differently as shown below, depending on the setting of the receiving color system.
COLP (PAL)
COLC (NTSC)
COLS (SECAM)

CAUTION : Never try to perform initialization unless you have changed the memory IC.

4. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

5. ADJUSTING THE DATA

1) Pressing of VOLUME ◀ / ▶ , ▲ / ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

■ **INITIALIZATION OF MEMORY DATA**

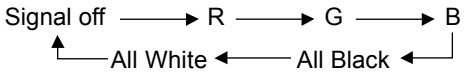
After replacing EEPROM IC, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the CALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of EEPROM IC has been completed.
3. Check the picture carefully. If necessary, adjust any adjustment item above. Perform “Auto tune” on the owner’s manual.

CAUTION: Never attempt to initialize the data unless EEPROM IC has been replaced.

7. TEST SIGNAL SELECTION

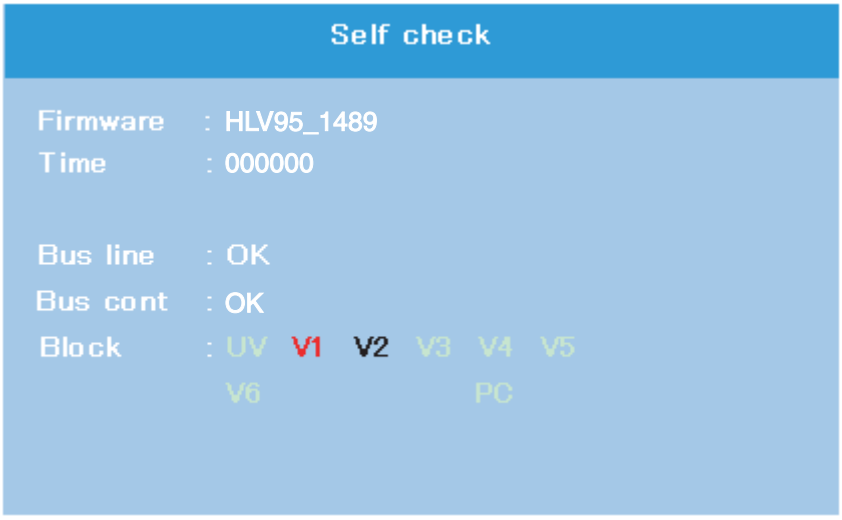
1) Every pressing of TV/VIDEO button on the Remote Control changes the built-in test patterns on screen as described below in SERVICE MODE.



Signals	Picture
• Red raster • Green raster • Blue raster • All Black • All White	

8. SELF DIAGNOSTIC FUNCTION

1) Press “9” button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC’s is executed properly.
2) During diagnosis, the following displays are shown.



① Firmware :
Version information of microprocessor
In case of file name : HLV95 and Version : 1489 indicates[HLV95_1489].

② Time : Total hour of turn the TV on. (Unit : H)

③ Bus line : --"OK" is normal
"SCL-GND"(Red indication) : SCL-GND short circuit
"SDA-GND"(Red indication) : SDA-GND short circuit
"SCL-SDA"(Red indication) : SCL-SDA short circuit

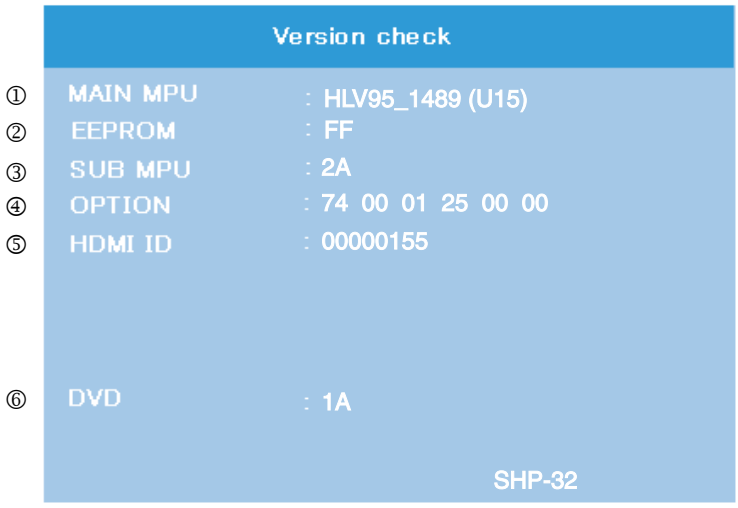
④ Bus cont : --- "OK" is normal.
NG is abnormal(Red indication).
When type name of semiconductor indicates.

⑤ Block

UV : TV reception mode
V1 : VIDEO 1 input mode
V2 : VIDEO 2 input mode
V3 : ColorStream HD1
V4 : ColorStream HD2
V5 : Buit-in DVD
V6 : HDMI IN
PC : Personal Computer (PC)

9. VERSION CHECK MODE

1) Press “9” button twice on Remote Control during display of adjustment menu in the service mode. The version of main MPU will begin to check.
2) During Version Check, the following displays are shown.



① MAIN MPU :
Version information of microprocessor
In case of file name : HLV95, Version 1489 for Code Program Version
and (U15) for OSD Version indicates [HLV95_1489(U15)]

② EEPROM :
Version information of EEPROM : Display 1 byte data.

③ SUB MPU :
Version information of SUB MPU : Display 1 byte data.

④ OPTION :
Option information : Display six numbers of 1 byte data.

⑤ HDMI ID :
HDMI ID information : Display 4 byte data.

⑥ DVD :
DVD information : Display 1 byte data.

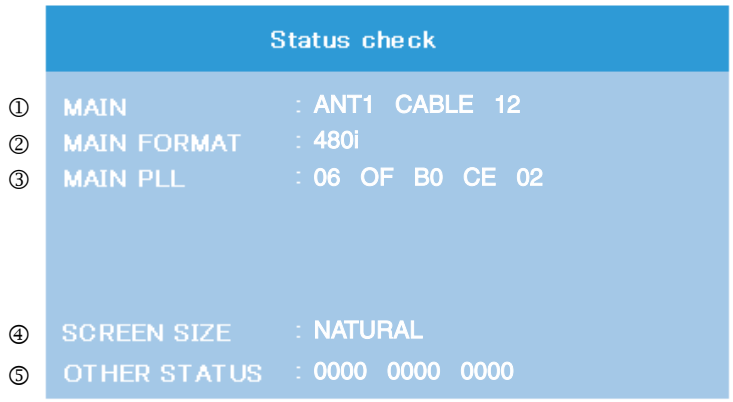
⑦ LCD Panel Vender information display
The following Panel Vender and screen size are displayed.

Panel Vender	Screen Size(Inch)
CMO	-27
SHP	-32

Example : SHP-32 indicates that vender is SHP and Screen Size is 32 inch.

10. STATUS CHECK MODE

1) Press “9” button thrice on Remote Control during display of adjustment menu in the service mode. The status of this model will begin to check.
2) During Status Check, the following displays are shown.


Status check
① MAIN : ANT1 CABLE 12
② MAIN FORMAT : 480i
③ MAIN PLL : 06 OF B0 CE 02
④ SCREEN SIZE : NATURAL
⑤ OTHER STATUS : 0000 0000 0000

① MAIN :
Main source information :
Display RF position number (0 - 99) on the main screen, or Input Source (ANT1/2/HDMI etc.)

② MAIN FORMAT :
Display Video and PC format information

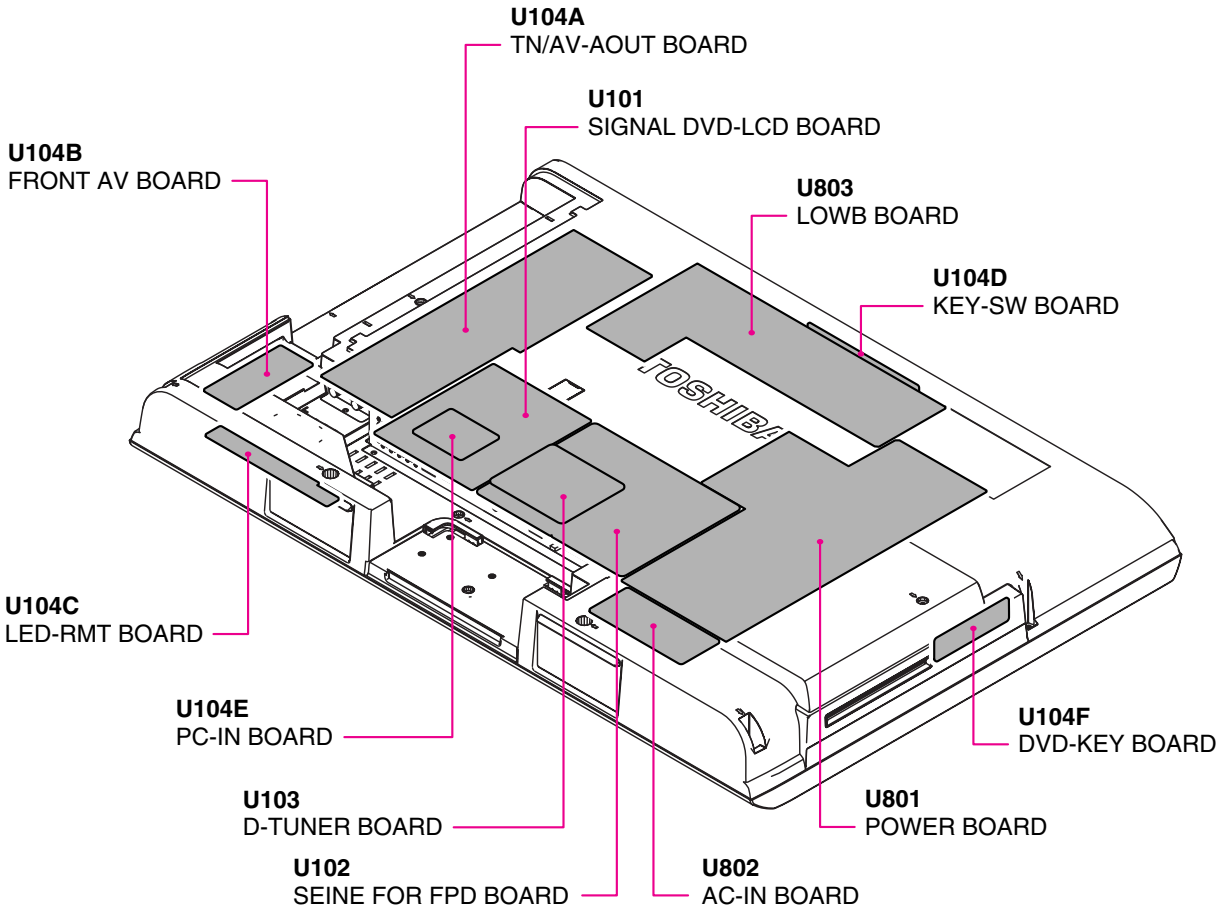
③ MAIN PLL :
Main PLL information : Display five numbers of 2 byte data.

④ SCREEN SIZE :
Display the screen size as follows.

Theater Wide 1
Theater Wide 2
Theater Wide 3
FULL
NATURAL

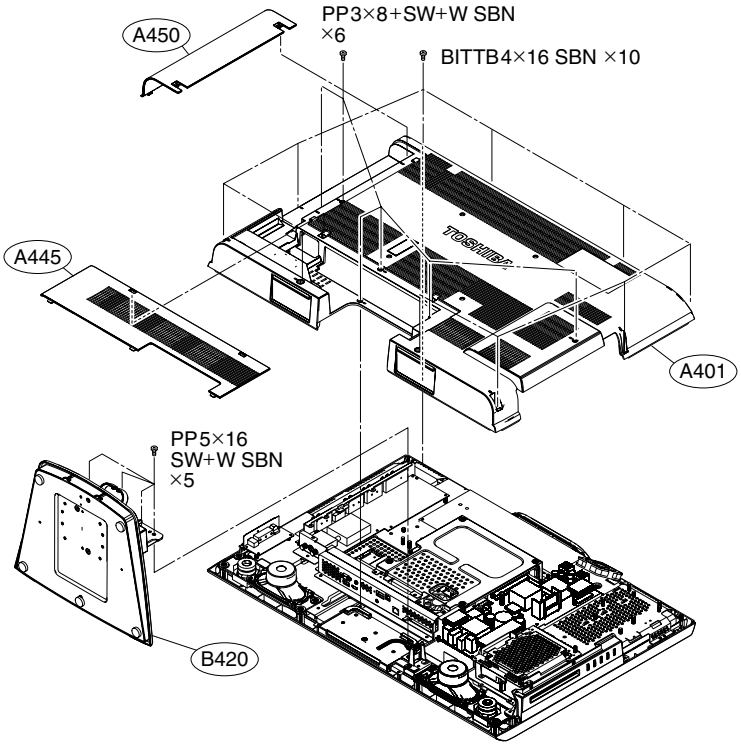
⑤ OTHER STATUS :
Other status information : Display three numbers of 2 byte data.

LAYOUT OF MAJOR BOARDS

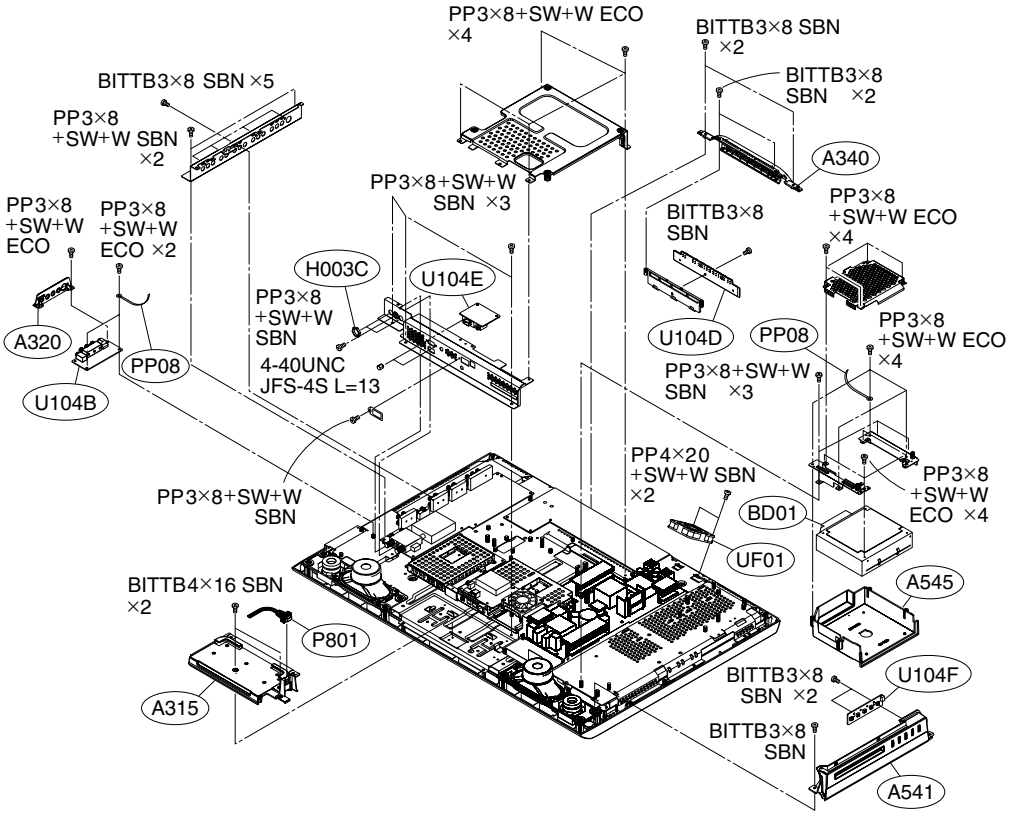


MECHANICAL DISASSEMBLY

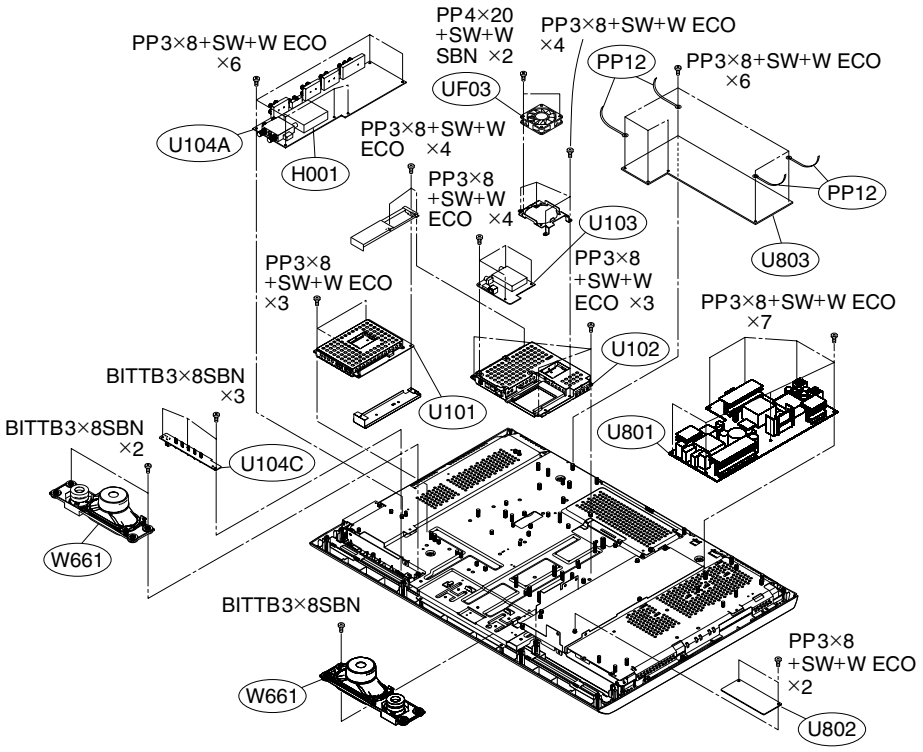
1. Remove the stand (foot) and back cover.



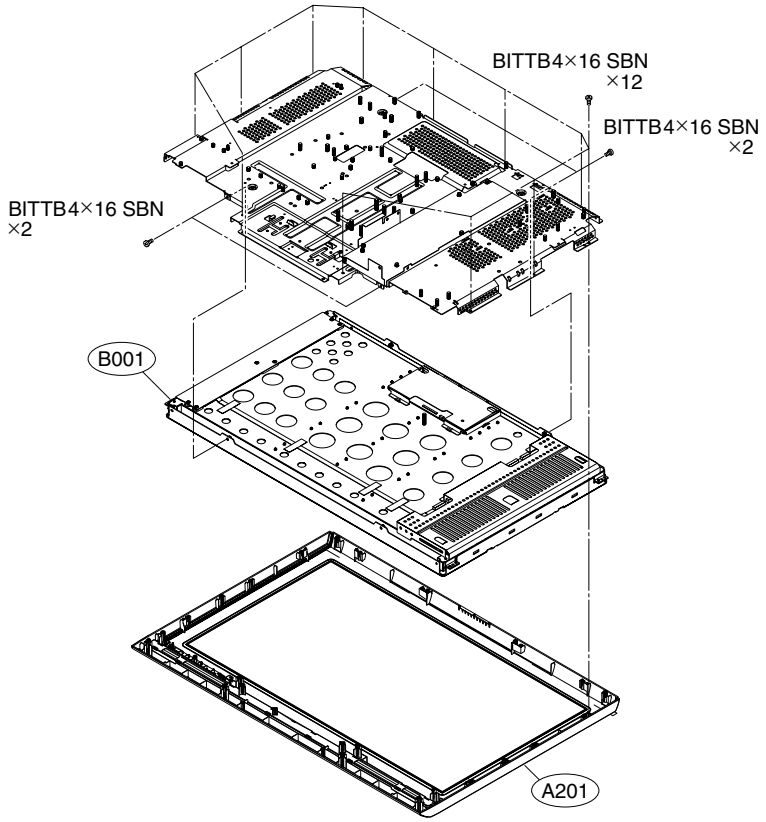
2. Remove the boards (FRONT AV, KEY-SW, PC-IN, DVD-KEY) and piece key ass'y.



3. Remove the boards (SIGNAL DVD-LCD, SEINE FOR FPD, D-TUNER, TN/AV-AOUT, LED-RMT, POWER, AC-IN, LOWB) and speaker.

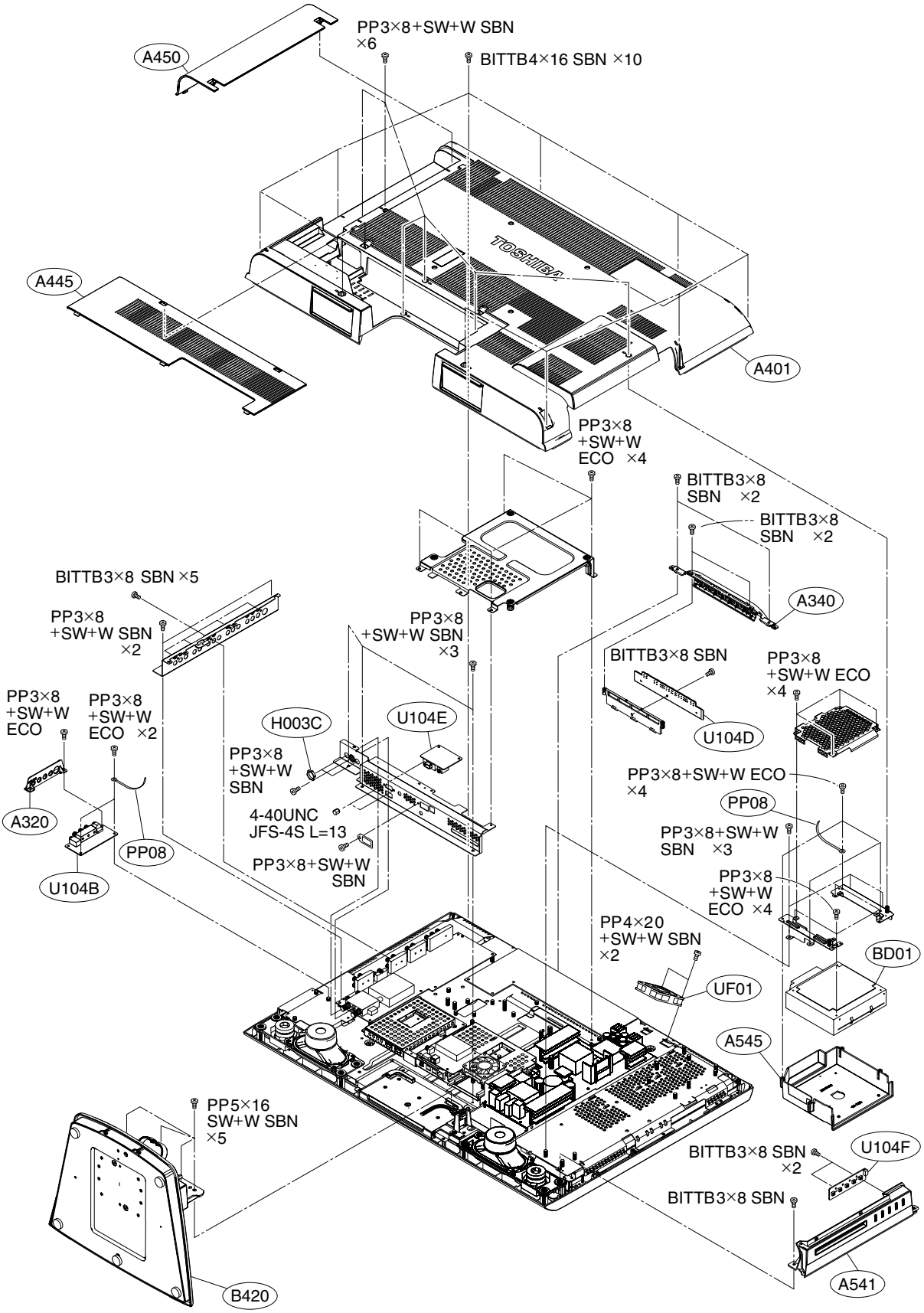


4. Remove the display.

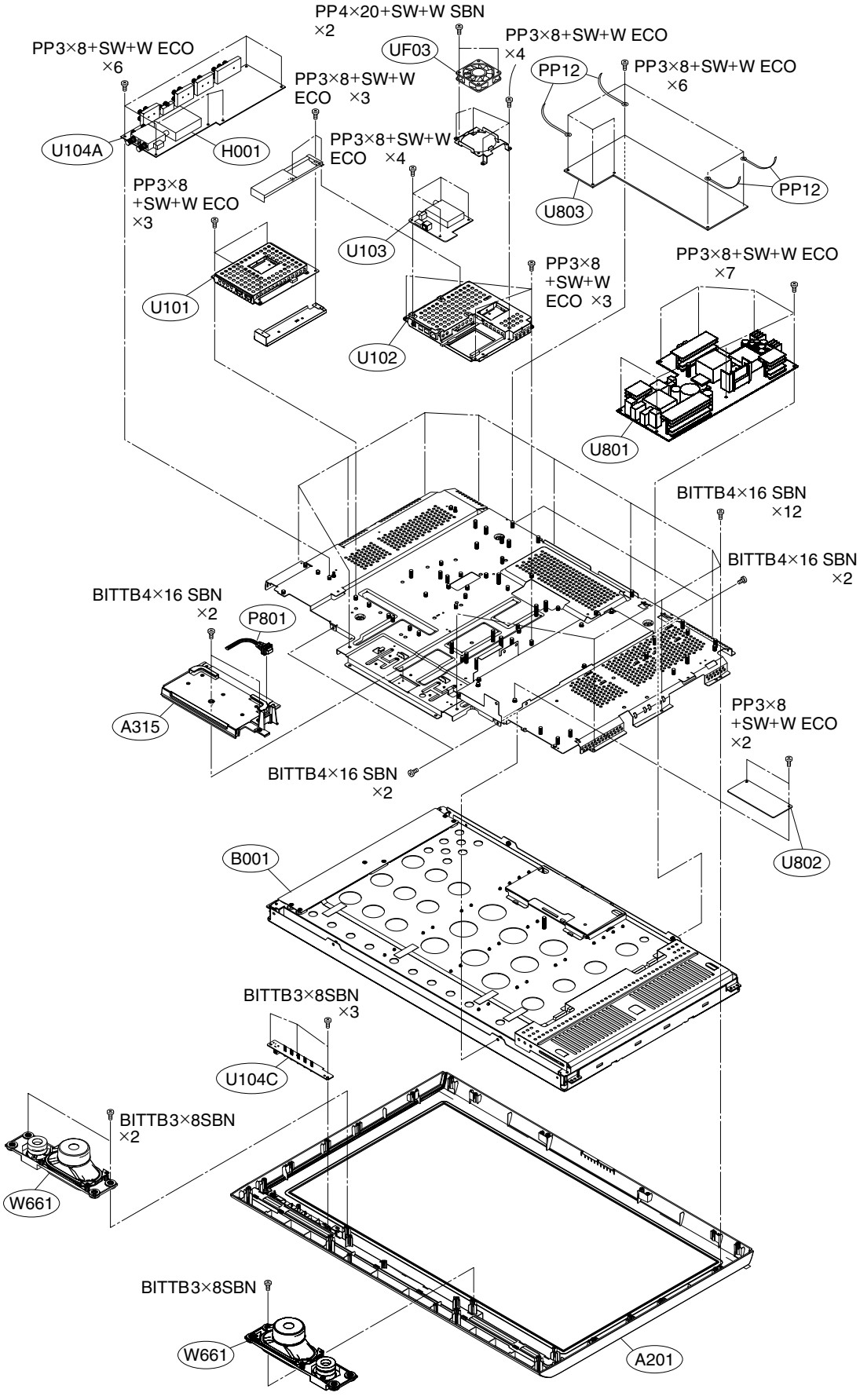


EXPLODED VIEWS

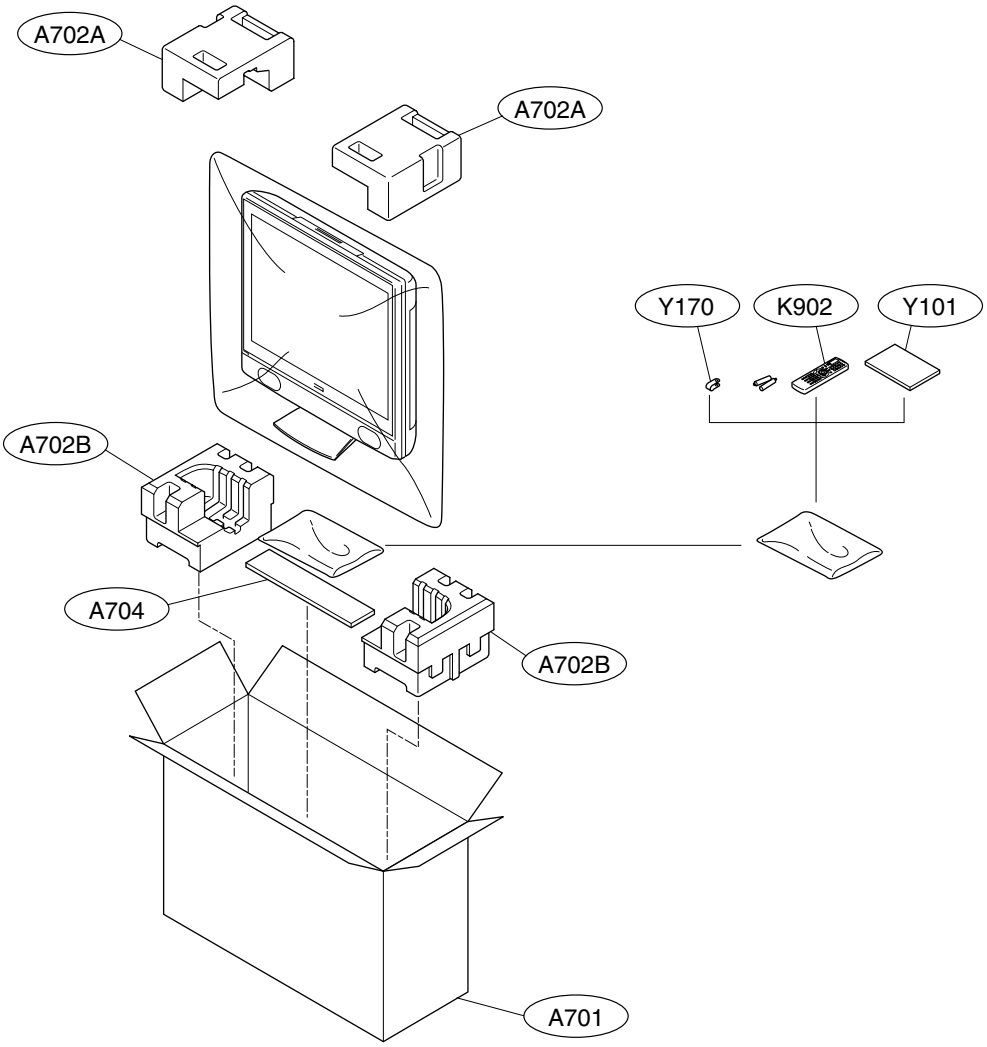
1. Chassis Block



2. Main Block


PP4×20+SW+W SBN
×2
PP3×8+SW+W ECO
×6
UF03
PP3×8+SW+W ECO
×4
PP12
PP3×8+SW+W ECO
×6
PP3×8+SW+W
ECO ×3
U104A
H001
PP3×8+SW+W
ECO ×4
PP3×8
+SW+W ECO
×3
U803
PP12
U103
U101
PP3×8
+SW+W
ECO ×3
PP3×8+SW+W ECO
×7
U102
U801
BITTB4×16 SBN
×12
BITTB4×16 SBN
×2
BITTB4×16 SBN
×2
P801
A315
PP3×8
+SW+W ECO
×2
BITTB4×16 SBN
×2
U802
B001
BITTB3×8SBN
×3
U104C
BITTB3×8SBN
×2
W661
BITTB3×8SBN
W661
A201

PACKING DISASSEMBLY



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SERVICE SAFETY PRECAUTIONS" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the SERVICE SAFETY PRECAUTIONS. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with * mark is no longer available after the end of the production.*

Model : 32HLX95

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Parts No.	Description
CAPACITORS		
C102	76073019	ELECTROLYTIC, 10V 470UF M 3A
C103	76109102	CERAMIC CHIP, 50V B 1000PF K
C104	76619143	ELECTROLYTIC CHIP, 50V 4.7UF M
C105	76073019	ELECTROLYTIC, 10V 470UF M 3A
C150	76073041	ELECTROLYTIC, 16V 470UF M 3A
C151	76109102	CERAMIC CHIP, 50V B 1000PF K
C152	76109102	CERAMIC CHIP, 50V B 1000PF K
C161	76109102	CERAMIC CHIP, 50V B 1000PF K
C162	76105101	CERAMIC CHIP, 50V CH 100PF J
C164	76092730	CERAMIC CHIP, 16V B 0.1UF K
C168	76109103	CERAMIC CHIP, 50V B 0.01UF K
C169	76109103	CERAMIC CHIP, 50V B 0.01UF K
C605	76109102	CERAMIC CHIP, 50V B 1000PF K
C606	76109102	CERAMIC CHIP, 50V B 1000PF K
C660	76669479	ELECTROLYTIC, 50V 4.7UF M
C661	76669479	ELECTROLYTIC, 50V 4.7UF M
C662	76109681	CERAMIC CHIP, 50V B 680PF K
C663	76109681	CERAMIC CHIP, 50V B 680PF K
C668	76109102	CERAMIC CHIP, 50V B 1000PF K
C669	76109102	CERAMIC CHIP, 50V B 1000PF K
C670	76669100	ELECTROLYTIC, 50V 10UF M
C671	76669100	ELECTROLYTIC, 50V 10UF M
C673	76619102	ELECTROLYTIC CHIP, 16V 47UF M
C674	76092731	CERAMIC CHIP, 16V B 1UF K
C677	76092731	CERAMIC CHIP, 16V B 1UF K
C678	76285104	CERAMIC CHIP, 50V B 0.1UF K
C679	76285104	CERAMIC CHIP, 50V B 0.1UF K
C680	76073073	ELECTROLYTIC, 35V 2200UF M 3A
C681	76073073	ELECTROLYTIC, 35V 2200UF M 3A
C682	76073073	ELECTROLYTIC, 35V 2200UF M 3A
C684	76109103	CERAMIC CHIP, 50V B 0.01UF K
C685	76092538	CERAMIC CHIP, 10V F 1UF Z
C690	76664102	ELECTROLYTIC, 6.3V 1000UF M 3A
C691	76092463	CERAMIC CHIP, 16V B 0.22UF K
C692	76092463	CERAMIC CHIP, 16V B 0.22UF K
⚠ C801	76168007	MT PLA AC275V 1UF M
⚠ C802	76503508	MT PLA PCX2 337 11474
C806	76092555	CERAMIC DISC, AC250V E 1000PF M
C807	76092555	CERAMIC DISC, AC250V E 1000PF M
C808	76092553	CERAMIC DISC, AC250V B 470PF K

Location No.	Parts No.	Description
C809	76092553	CERAMIC DISC, AC250V B 470PF K
⚠ C812	76109102	CERAMIC CHIP, 50V B 1000PF K
C814	76109102	CERAMIC CHIP, 50V B 1000PF K
C815	76073037	ELECTROLYTIC, 16V 47UF M 3A
C816	76109102	CERAMIC CHIP, 50V B 1000PF K
C817	76109102	CERAMIC CHIP, 50V B 1000PF K
C818	76669010	ELECTROLYTIC, 50V 1UF M
C819	76539684	PLASTIC FILM, 50V 0.68UF J
C820	76125010	ELECTROLYTIC CE69R 450V 270UF M 3H
C821	76125011	ELECTROLYTIC CE04R 450V 82UF M 4A
C822	76214103	CERAMIC DISC, 500V B 0.01UF K
C824	76168008	MT PLA 450V 1UF K
C825	76168008	MT PLA 450V 1UF K
C826	76092339	CERAMIC DISC, 2KV 330PF K
C827	76092339	CERAMIC DISC, 2KV 330PF K
C840	76125009	ELECTROLYTIC 450V 47UF M
C843	76166001	CERAMIC DISK CC45 SL 3.15KV 47PF J
C844	76669479	ELECTROLYTIC, 50V 4.7UF M
C845	76073196	ELECTROLYTIC, 50V 22UF M 3A
C846	76073140	ELECTROLYTIC CE04P 10V 680UF M 3A
C847	76665471	ELECTROLYTIC, 10V 470UF M
C848	76214471	CERAMIC DISC, 500V B 470PF K
C860	76214103	CERAMIC DISC, 500V B 0.01UF K
C861	76503053	PLASTIC FILM, 63V 1UF J
C862	76669229	ELECTROLYTIC, 50V 2.2UF M
C863	76503049	PLASTIC FILM, 63V 0.47UF J
C864	76567224	PLASTIC FILM, 50V 0.22UF J
C865	76567224	PLASTIC FILM, 50V 0.22UF J
C866	76092341	CERAMIC DISC, 2KV R 470PF K
C868	76435221	CERAMIC DISC, 500V SL 220PF J
C869	76435221	CERAMIC DISC, 500V SL 220PF J
C870	76503425	PLASTIC FILM CQ92 3D2J473J-K5
C872	76073189	ELECTROLYTIC, 35V 1000UF M
C873	76073189	ELECTROLYTIC, 35V 1000UF M
C876	76073204	ELECTROLYTIC CE04P 50V 330UF M 3A
C877	76669229	ELECTROLYTIC, 50V 2.2UF M
C878	76503041	PLASTIC FILM , 63V 0.1UF J
C880	76503229	PLASTIC FILM, 1250VH 1000PF H
C881	76092337	CERAMIC DISC, 2KV 220PF K
C882	76567334	PLASTIC FILM, 50V 0.33UF J
C883	76212221	CERAMIC DISC, 50V B 220PF K

Location No.	Parts No.	Description
C884	76073196	ELECTROLYTIC, 50V 22UF M 3A
C885	76214471	CERAMIC DISC, 500V B 470PF K
C886	76212152	CERAMIC DISC, 50V B 1500PF K
C887	76214471	CERAMIC DISC, 500V B 470PF K
C888	76073189	ELECTROLYTIC, 35V 1000UF M
C889	76073189	ELECTROLYTIC, 35V 1000UF M
C890	76796102	ELECTROLYTIC, 35V 1000UF M
C891	76214471	CERAMIC DISC, 500V B 470PF K
C892	76676100	ELECTROLYTIC, 100V 10UF M 3A
C893	76747220	ELECTROLYTIC, 50V 22UF M 7L 3A
C894	76214471	CERAMIC DISC, 500V B 470PF K
C895	76073188	ELECTROLYTIC, 35V 680UF M
C896	76073188	ELECTROLYTIC, 35V 680UF M
C897	76796102	ELECTROLYTIC, 35V 1000UF M
C898	76669010	ELECTROLYTIC, 50V 1UF M
C1801	76285104	CERAMIC CHIP, 50V B 0.1UF K
C1802	76109103	CERAMIC CHIP, 50V B 0.01UF K
C1803	76109103	CERAMIC CHIP, 50V B 0.01UF K
C1804	76109103	CERAMIC CHIP, 50V B 0.01UF K
C1805	76109103	CERAMIC CHIP, 50V B 0.01UF K
C1806	76109103	CERAMIC CHIP, 50V B 0.01UF K
C1807	76109103	CERAMIC CHIP, 50V B 0.01UF K
C1808	76109103	CERAMIC CHIP, 50V B 0.01UF K
C1809	76109103	CERAMIC CHIP, 50V B 0.01UF K
C1810	76109103	CERAMIC CHIP, 50V B 0.01UF K
C1811	76109103	CERAMIC CHIP, 50V B 0.01UF K
C8171	76092730	CERAMIC CHIP, 16V B 0.1UF K
C8191	76092730	CERAMIC CHIP, 16V B 0.1UF K
C8210	76105331	CERAMIC CHIP, 50V CH 330PF J
C8211	76815473	CERAMIC CHIP, 50V B 0.047UF K
C8212	76092178	CERAMIC CHIP, 25V B 0.1UF K
C8213	76109102	CERAMIC CHIP, 50V B 1000PF K
C8241	76073196	ELECTROLYTIC, 50V 22UF M 3A
C8250	76092341	CERAMIC DISC, 2KV R 470PF K
C8251	76434100	CERAMIC DISC, 500V SL 10PF D
C8390	76109102	CERAMIC CHIP, 50V B 1000PF K
C8401	76092733	CERAMIC CHIP, 50V B 0.022UF K
C8402	76092733	CERAMIC CHIP, 50V B 0.022UF K
C8403	76669470	ELECTROLYTIC, 50V 47UF M
C8490	76669010	ELECTROLYTIC, 50V 1UF M
C8601	76591682	PLASTIC FILM, 50V 6800PF J
C8602	76212101	CERAMIC DISC, 50V B 100PF K
C8605	76285104	CERAMIC CHIP, 50V B 0.1UF K
C8701	76567224	PLASTIC FILM, 50V 0.22UF J
C8702	76287224	CHIP CER 50V F 224Z GRM319F11H224ZA01D
C8703	76109102	CERAMIC CHIP, 50V B 1000PF K
C8801	76092730	CERAMIC CHIP, 16V B 0.1UF K
C8802	76092883	CERAMIC CHIP, 50V B 0.1UF K
C8891	76503049	PLASTIC FILM, 63V 0.47UF J
CB01	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB02	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB03	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CB04	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CB05	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB38	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CC11	76109102	CERAMIC CHIP, 50V B 1000PF K
CC12	76109102	CERAMIC CHIP, 50V B 1000PF K
CC16	76109102	CERAMIC CHIP, 50V B 1000PF K
CC17	76109102	CERAMIC CHIP, 50V B 1000PF K
CD41	76105330	CERAMIC CHIP, 50V CH 33PF J
CD42	76105330	CERAMIC CHIP, 50V CH 33PF J
CD43	76105330	CERAMIC CHIP, 50V CH 33PF J
CD45	76105330	CERAMIC CHIP, 50V CH 33PF J
CD46	76105330	CERAMIC CHIP, 50V CH 33PF J
CD47	76105330	CERAMIC CHIP, 50V CH 33PF J
CD48	76105330	CERAMIC CHIP, 50V CH 33PF J

Location No.	Parts No.	Description
CD61	76105330	CERAMIC CHIP, 50V CH 33PF J
CD62	76105330	CERAMIC CHIP, 50V CH 33PF J
CD63	76105330	CERAMIC CHIP, 50V CH 33PF J
CD64	76105330	CERAMIC CHIP, 50V CH 33PF J
CD65	76105330	CERAMIC CHIP, 50V CH 33PF J
CD66	76105330	CERAMIC CHIP, 50V CH 33PF J
CD67	76105330	CERAMIC CHIP, 50V CH 33PF J
CD81	76619040	ELECTROLYTIC CHIP, 16V 10UF M 3A
CD82	76619040	ELECTROLYTIC CHIP, 16V 10UF M 3A
CD83	76109102	CERAMIC CHIP, 50V B 1000PF K
CD84	76109102	CERAMIC CHIP, 50V B 1000PF K
CD85	76105221	CERAMIC CHIP, 50V CH 220PF J
CD87	76092731	CERAMIC CHIP, 16V B 1UF K
CD88	76105221	CERAMIC CHIP, 50V CH 220PF J
CD89	76105221	CERAMIC CHIP, 50V CH 220PF J
CD90	76105221	CERAMIC CHIP, 50V CH 220PF J
CD91	76619040	ELECTROLYTIC CHIP, 16V 10UF M 3A
CD92	76109102	CERAMIC CHIP, 50V B 1000PF K
CD93	76105101	CERAMIC CHIP, 50V CH 100PF J
CD94	76109102	CERAMIC CHIP, 50V B 1000PF K
CD95	76619040	ELECTROLYTIC CHIP, 16V 10UF M 3A
CD96	76619040	ELECTROLYTIC CHIP, 16V 10UF M 3A
CE05	76073090	ELECTROLYTIC, 50V 100UF M 3A
CE08	76073090	ELECTROLYTIC, 50V 100UF M 3A
CE10	76666470	ELECTORLYTIC, 16V 47UF M 3A
CE11	76539474	PLASTIC FILM, 50V 0.47UF J
CE12	76666470	ELECTORLYTIC, 16V 47UF M 3A
CE25	76668470	ELECTROLYTIC, 35V 47UF M 3A
CE40	76073186	ELECTROLYTIC, 35V 470UF M
CE41	76617028	ELECTROLYTIC, 16V 1200UF M
CE42	76073020	ELECTROLYTIC, 10V 1000UF M 3A
CE43	76539104	PLASTIC FILM, 50V 0.1UF J
CE44	76539104	PLASTIC FILM, 50V 0.1UF J
CE45	76666470	ELECTORLYTIC, 16V 47UF M 3A
CE46	76539474	PLASTIC FILM, 50V 0.47UF J
CE47	76666470	ELECTORLYTIC, 16V 47UF M 3A
CE60	76073186	ELECTROLYTIC, 35V 470UF M
CE61	76617028	ELECTROLYTIC, 16V 1200UF M
CE62	76073020	ELECTROLYTIC, 10V 1000UF M 3A
CE63	76539104	PLASTIC FILM, 50V 0.1UF J
CE64	76539104	PLASTIC FILM, 50V 0.1UF J
CE65	76666470	ELECTORLYTIC, 16V 47UF M 3A
CE66	76539474	PLASTIC FILM, 50V 0.47UF J
CE67	76666470	ELECTORLYTIC, 16V 47UF M 3A
CE70	76073189	ELECTROLYTIC, 35V 1000UF M
CE71	76073186	ELECTROLYTIC, 35V 470UF M
CE72	76073128	ELECTROLYTIC, 6.3V 1000UF M
CE85	76666470	ELECTORLYTIC, 16V 47UF M 3A
CE90	76073186	ELECTROLYTIC, 35V 470UF M
CE91	76617028	ELECTROLYTIC, 16V 1200UF M
CE92	76666471	ELECTROLYTIC, 16V 470UF M 3A
CE93	76539104	PLASTIC FILM, 50V 0.1UF J
CE94	76539104	PLASTIC FILM, 50V 0.1UF J
CE95	76668101	ELECTROLYTIC, 35V 100UF M 3A
CS10	76092628	CERAMIC CHIP, 6.3V B 10UF K
CS11	76092628	CERAMIC CHIP, 6.3V B 10UF K
CS12	76109473	CERAMIC CHIP, 25V B 0.047UF K
CS15	76092628	CERAMIC CHIP, 6.3V B 10UF K
CS16	76092628	CERAMIC CHIP, 6.3V B 10UF K
CS40	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS41	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS42	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS43	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS44	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS45	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS46	76092611	CERAMIC CHIP, 6.3V B 2.2UF K

Location No.	Parts No.	Description
CS47	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS48	76092538	CERAMIC CHIP, 10V F 1UF Z
CS49	76092538	CERAMIC CHIP, 10V F 1UF Z
CS50	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS51	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS52	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS53	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS54	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS55	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS56	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS57	76619102	ELECTROLYTIC CHIP, 16V 47UF M
CS64	76619101	ELECTROLYTIC CHIP, 16V 22UF M
CS82	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS85	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS86	76092611	CERAMIC CHIP, 6.3V B 2.2UF K
CS501	76619100	ELECTROLYTIC CHIP, 16V 10UF M
CS502	76092726	CERAMIC CHIP, 10V B 2.2UF K
CS503	76619100	ELECTROLYTIC CHIP, 16V 10UF M
CS504	76105470	CERAMIC CHIP, 50V CH 47PF J
CS505	76105470	CERAMIC CHIP, 50V CH 47PF J
CV10	76109102	CERAMIC CHIP, 50V B 1000PF K
CV59	76105220	CERAMIC CHIP, 50V CH 22PF J
CV61	76105270	CERAMIC CHIP, 50V CH 27PF J
CV62	76105330	CERAMIC CHIP, 50V CH 33PF J
CV63	76092730	CERAMIC CHIP, 16V B 0.1UF K
CV68	76092621	CERAMIC CHIP, 10V B 1UF K
CV69	76092621	CERAMIC CHIP, 10V B 1UF K
CV72	76794471	ELECTROLYTIC, 16V 470UF M
CV74	76666101	ELECTROLYTIC, 16V 100UF M 3A
CV76	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CV122	76105101	CERAMIC CHIP, 50V CH 100PF J
CV267	76619100	ELECTROLYTIC CHIP, 16V 10UF M
CV270	76619100	ELECTROLYTIC CHIP, 16V 10UF M
CV273	76619100	ELECTROLYTIC CHIP, 16V 10UF M
CV282	76619100	ELECTROLYTIC CHIP, 16V 10UF M
CV286	76109103	CERAMIC CHIP, 50V B 0.01UF K
CV287	76619102	ELECTROLYTIC CHIP, 16V 47UF M
CV289	76619100	ELECTROLYTIC CHIP, 16V 10UF M
CV291	76109103	CERAMIC CHIP, 50V B 0.01UF K
CV292	76109103	CERAMIC CHIP, 50V B 0.01UF K
CV293	76619100	ELECTROLYTIC CHIP, 16V 10UF M
CV294	76109103	CERAMIC CHIP, 50V B 0.01UF K
RESISTORS		
R103	76011101	CHIP, 1/20W 100 OHM J
R104	76011103	CHIP, 1/20W 10K OHM J
R105	76011273	CHIP, 1/20W 27K OHM J
R107	76000445	CHIP JUMPER, 1608TYPE
R108	76000445	CHIP JUMPER, 1608TYPE
R110	76011682	CHIP, 1/20W 6.8K OHM J
R114	76000445	CHIP JUMPER, 1608TYPE
R161	76011102	CHIP, 1/20W 1K OHM J
R165	76011392	CHIP, 1/20W 3.9K OHM J
R166	76011472	CHIP, 1/20W 4.7K OHM J
R167	76011101	CHIP, 1/20W 100 OHM J
R168	76011101	CHIP, 1/20W 100 OHM J
R664	76011104	CHIP, 1/20W 100K OHM J
R665	76011104	CHIP, 1/20W 100K OHM J
R670	76011472	CHIP, 1/20W 4.7K OHM J
R671	76011472	CHIP, 1/20W 4.7K OHM J
R672	76011182	CHIP, 1/20W 1.8K OHM J
R673	76011182	CHIP, 1/20W 1.8K OHM J
R678	76871229	CHIP, 1/8W 2.2 OHM J
R679	76871229	CHIP, 1/8W 2.2 OHM J
R680	76011473	CHIP, 1/20W 47K OHM J
R681	76011473	CHIP, 1/20W 47K OHM J

Location No.	Parts No.	Description
R683	76011103	CHIP, 1/20W 10K OHM J
R684	76011104	CHIP, 1/20W 100K OHM J
R685	76011222	CHIP, 1/20W 2.2K OHM J
R686	76011102	CHIP, 1/20W 1K OHM J
R687	76871102	CHIP, 1/8W 1K OHM J
R688	76871102	CHIP, 1/8W 1K OHM J
R689	76871102	CHIP, 1/8W 1K OHM J
R690	76011473	CHIP, 1/20W 47K OHM J
R691	76011103	CHIP, 1/20W 10K OHM J
R692	76011223	CHIP, 1/20W 22K OHM J
R695	76871102	CHIP, 1/8W 1K OHM J
R696	76871102	CHIP, 1/8W 1K OHM J
R697	76871102	CHIP, 1/8W 1K OHM J
⚠ R801	76017004	METAL GLAZE 1/2W 510K J
R809	76004718	METAL GLAZE, 1/2W 8.2M OHM J
R812	76011473	CHIP, 1/20W 47K OHM J
R820	76019461	METAL PLATE, 2W 0.15 OHM J
R821	76019461	METAL PLATE, 2W 0.15 OHM J
R826	76004714	METAL GLAZE, 1/2W 1.2M OHM J
R830	76007061	CERAMIC COVERED, 2W 1.8 OHM K
R831	76120003	CERAMIC COVERED G 5W 4.7 J
R840	76382823	OXIDE FILM 1W 82K J
R841	76322339	METAL FILM 1W 3R3 J
R842	76310479	OXIDE METAL FILM, 1/2W 4.7 OHM J
R860	76552271	OXIDE METAL FILM, 1/2W 270 OHM J
R862	76552681	OXIDE METAL FILM, 1/2W 680 OHM J
R863	76011272	CHIP, 1/20W 2.7K OHM J
R864	76552101	OXIDE METAL FILM, 1/2W 100 OHM J
R865	76552100	OXIDE METAL FILM, 1/2W 10 OHM J
R867	76552330	OXIDE METAL FILM, 1/2W 33 OHM J
R880	76553683	OXIDE METAL FILM, 1W 68K OHM J
R881	76553683	OXIDE METAL FILM, 1W 68K OHM J
R882	76323569	METAL FILM 2W 5R6 J
R883	76079010	METAL RES 2W R47 J
R884	76321339	OXIDE METAL FILM, 1/2W 3.3 OHM J
R885	76553101	OXIDE METAL FILM, 1W 100 OHM J
R886	76554432	OXIDE FILM 2W 4.3K J
R4100	76011102	CHIP, 1/20W 1K OHM J
R4101	76011681	CHIP, 1/20W 680 OHM J
R4102	76011471	CHIP, 1/20W 470 OHM J
R4103	76011102	CHIP, 1/20W 1K OHM J
R4104	76011152	CHIP, 1/20W 1.5K OHM J
R4105	76011102	CHIP, 1/20W 1K OHM J
R4106	76011681	CHIP, 1/20W 680 OHM J
R4107	76011471	CHIP, 1/20W 470 OHM J
R4108	76011102	CHIP, 1/20W 1K OHM J
R4109	76011152	CHIP, 1/20W 1.5K OHM J
R4120	76000445	CHIP JUMPER, 1608TYPE
R4122	76000445	CHIP JUMPER, 1608TYPE
R6601	76011223	CHIP, 1/20W 22K OHM J
R6602	76011472	CHIP, 1/20W 4.7K OHM J
R6603	76011223	CHIP, 1/20W 22K OHM J
R6604	76011102	CHIP, 1/20W 1K OHM J
R6605	76011103	CHIP, 1/20W 10K OHM J
R6606	76011104	CHIP, 1/20W 100K OHM J
R8110	76000250	METAL FILM, 1/4W 56K OHM F
R8111	76000250	METAL FILM, 1/4W 56K OHM F
R8112	76000250	METAL FILM, 1/4W 56K OHM F
R8113	76000250	METAL FILM, 1/4W 56K OHM F
R8114	76000527	METAL FILM, 1/4W 5.6K OHM F
R8115	76000639	METAL FILM, 1/4W 22K OHM F
R8116	76000554	CHIP, 1/16W 510 F
R8117	76000574	METAL FILM CHIP 1/16W 2.7K F
R8118	76000574	METAL FILM CHIP 1/16W 2.7K F
R8130	76871182	CHIP, 1/8W 1.8K OHM J
R8131	76871182	CHIP, 1/8W 1.8K OHM J

Location No.	Parts No.	Description
R8132	76871182	CHIP, 1/8W 1.8K OHM J
R8133	76011102	CHIP, 1/20W 1K OHM J
R8140	76011682	CHIP, 1/20W 6.8K OHM J
R8141	76011473	CHIP, 1/20W 47K OHM J
R8142	76872470	CHIP, 1/16W 47 OHM J
R8143	76872470	CHIP, 1/16W 47 OHM J
R8144	76872390	CHIP, 1/16W 39 OHM J
R8150	76011562	CHIP, 1/20W 5.6K OHM J
R8151	76011222	CHIP, 1/20W 2.2K OHM J
R8152	76011473	CHIP, 1/20W 47K OHM J
R8160	76011103	CHIP, 1/20W 10K OHM J
R8161	76011473	CHIP, 1/20W 47K OHM J
R8162	76011103	CHIP, 1/20W 10K OHM J
R8191	76000445	CHIP JUMPER, 1608TYPE
R8192	76011471	CHIP, 1/20W 470 OHM J
R8193	76011102	CHIP, 1/20W 1K OHM J
R8194	76011151	CHIP, 1/20W 150 OHM J
R8195	76011151	CHIP, 1/20W 150 OHM J
R8210	76998471	CHIP, 1/16W 470 OHM
R8212	76998102	CHIP, 1/16W 1K OHM
R8213	76011222	CHIP, 1/20W 2.2K OHM J
R8214	76000445	CHIP JUMPER, 1608TYPE
R8215	76998222	CHIP, 1/16W 2.2K OHM
R8216	76998222	CHIP, 1/16W 2.2K OHM
R8217	76011229	CHIP, 1/16W 2.2 OHM J
R8218	76998152	CHIP, 1/16W 1.5K OHM D
R8230	76872332	CHIP, 1/16W 3.3K OHM J
R8231	76011223	CHIP, 1/20W 22K OHM J
R8232	76011472	CHIP, 1/20W 4.7K OHM J
R8233	76011473	CHIP, 1/20W 47K OHM J
R8240	76190015	CHIP RES 1/16W 473D
R8241	76190015	CHIP RES 1/16W 473D
R8242	76190015	CHIP RES 1/16W 473D
R8243	76190015	CHIP RES 1/16W 473D
R8244	76190015	CHIP RES 1/16W 473D
R8245	76190015	CHIP RES 1/16W 473D
R8246	76190015	CHIP RES 1/16W 473D
R8247	76190015	CHIP RES 1/16W 473D
R8248	76190015	CHIP RES 1/16W 473D
R8249	76000445	CHIP JUMPER, 1608TYPE
R8310	76011223	CHIP, 1/20W 22K OHM J
R8312	76011471	CHIP, 1/20W 470 OHM J
R8313	76011102	CHIP, 1/20W 1K OHM J
R8390	76011473	CHIP, 1/20W 47K OHM J
R8391	76011102	CHIP, 1/20W 1K OHM J
R8392	76011681	CHIP, 1/20W 680 OHM J
R8393	76011681	CHIP, 1/20W 680 OHM J
R8394	76011681	CHIP, 1/20W 680 OHM J
R8395	76011681	CHIP, 1/20W 680 OHM J
R8396	76011222	CHIP, 1/20W 2.2K OHM J
R8403	76011102	CHIP, 1/20W 1K OHM J
R8404	76011101	CHIP, 1/20W 100 OHM J
R8405	76011102	CHIP, 1/20W 1K OHM J
R8406	76011473	CHIP, 1/20W 47K OHM J
R8407	76000572	CHIP, 1/16W 3.3K F
R8408	76000422	CHIP, 1/16W 2.2K F
R8409	76011102	CHIP, 1/20W 1K OHM J
R8410	76000445	CHIP JUMPER, 1608TYPE
R8411	76321479	OXIDE METAL FILM, 1/2W 4.7 OHM J
R8412	76871822	CHIP, 1/8W 8.2K OHM J
R8601	76000247	METAL FILM, 1/4W 39K OHM F
R8602	76366472	CARBON FILM, 1/6W 4.7K OHM J
R8603	76011103	CHIP, 1/20W 10K OHM J
R8604	76011102	CHIP, 1/20W 1K OHM J
R8605	76011472	CHIP, 1/20W 4.7K OHM J
R8606	76011103	CHIP, 1/20W 10K OHM J

Location No.	Parts No.	Description
R8607	76872221	CHIP, 1/16W 220 OHM J
R8701	76000595	CHIP, 1/16W 15K F
R8702	76190012	METAL FILM CHIP 1/16W 1.5K F
R8703	76011221	CHIP, 1/20W 220 OHM J
R8704	76000445	CHIP JUMPER, 1608TYPE
R8705	76011220	CHIP, 1/20W 22 OHM J
R8706	76011103	CHIP, 1/20W 10K OHM J
R8707	76011103	CHIP, 1/20W 10K OHM J
R8709	76011101	CHIP, 1/20W 100 OHM J
R8710	76011101	CHIP, 1/20W 100 OHM J
R8711	76011223	CHIP, 1/20W 22K OHM J
R8712	76011473	CHIP, 1/20W 47K OHM J
R8713	76011103	CHIP, 1/20W 10K OHM J
R8714	76011102	CHIP, 1/20W 1K OHM J
R8715	76011102	CHIP, 1/20W 1K OHM J
R8716	76011103	CHIP, 1/20W 10K OHM J
R8801	76011102	CHIP, 1/20W 1K OHM J
R8802	76011102	CHIP, 1/20W 1K OHM J
R8803	76366221	CARBON FILM, 1/6W 220 OHM J
R8804	76871222	CHIP, 1/8W 2.2K OHM J
R8805	76011102	CHIP, 1/20W 1K OHM J
R8806	76011102	CHIP, 1/20W 1K OHM J
R8807	76011152	CHIP, 1/20W 1.5K OHM J
R8808	76011101	CHIP, 1/20W 100 OHM J
R8809	76011223	CHIP, 1/20W 22K OHM J
R8810	76000605	CHIP, 1/16W 6.8K OHM F
R8811	76190012	METAL FILM CHIP 1/16W 1.5K F
R8812	76000446	CHIP, 1/16W 220 F
R8813	76000824	CHIP JUMPER, 2125TYPE
R8814	76011103	CHIP, 1/20W 10K OHM J
R8815	76872151	CHIP, 1/16W 150 OHM J
RA71	76011683	CHIP, 1/20W 68K OHM J
RA72	76011223	CHIP, 1/20W 22K OHM J
RA73	76011103	CHIP, 1/20W 10K OHM J
RA74	76000445	CHIP JUMPER, 1608TYPE
RA76	76011223	CHIP, 1/20W 22K OHM J
RA77	76011103	CHIP, 1/20W 10K OHM J
RA78	76000445	CHIP JUMPER, 1608TYPE
RA79	76000445	CHIP JUMPER, 1608TYPE
RB08	76011470	CHIP, 1/20W 47 OHM J
RB09	76011470	CHIP, 1/20W 47 OHM J
RB10	76011331	CHIP, 1/20W 330 OHM J
RB15	76011471	CHIP, 1/20W 470 OHM J
RB24	76000445	CHIP JUMPER, 1608TYPE
RC11	76011101	CHIP, 1/20W 100 OHM J
RC12	76011101	CHIP, 1/20W 100 OHM J
RC40	76011101	CHIP, 1/20W 100 OHM J
RC41	76011101	CHIP, 1/20W 100 OHM J
RD41	76011101	CHIP, 1/20W 100 OHM J
RD43	76000445	CHIP JUMPER, 1608TYPE
RD44	76000445	CHIP JUMPER, 1608TYPE
RD45	76011101	CHIP, 1/20W 100 OHM J
RD50	76000445	CHIP JUMPER, 1608TYPE
RD51	76000445	CHIP JUMPER, 1608TYPE
RD52	76000445	CHIP JUMPER, 1608TYPE
RD53	76000445	CHIP JUMPER, 1608TYPE
RD54	76000445	CHIP JUMPER, 1608TYPE
RD55	76000445	CHIP JUMPER, 1608TYPE
RD56	76000445	CHIP JUMPER, 1608TYPE
RD57	76000445	CHIP JUMPER, 1608TYPE
RD59	76000445	CHIP JUMPER, 1608TYPE
RD61	76011101	CHIP, 1/20W 100 OHM J
RD62	76011101	CHIP, 1/20W 100 OHM J
RD63	76011101	CHIP, 1/20W 100 OHM J
RD73	76011153	CHIP, 1/2OW 15K OHM J
RD74	76000445	CHIP JUMPER, 1608TYPE

Location No.	Parts No.	Description
RD76	76011563	CHIP, 1/20W 56K OHM J
RD77	76011153	CHIP, 1/2OW 15K OHM J
RD78	76000445	CHIP JUMPER, 1608TYPE
RD82	76011471	CHIP, 1/20W 470 OHM J
RD83	76011562	CHIP, 1/20W 5.6K OHM J
RD84	76011562	CHIP, 1/20W 5.6K OHM J
RD85	76011562	CHIP, 1/20W 5.6K OHM J
RD86	76011562	CHIP, 1/20W 5.6K OHM J
RD88	76011222	CHIP, 1/20W 2.2K OHM J
RD89	76011562	CHIP, 1/20W 5.6K OHM J
RD90	76011102	CHIP, 1/20W 1K OHM J
RD100	76011562	CHIP, 1/20W 5.6K OHM J
RD101	76011102	CHIP, 1/20W 1K OHM J
RD102	76011562	CHIP, 1/20W 5.6K OHM J
RD103	76011562	CHIP, 1/20W 5.6K OHM J
RD105	76011471	CHIP, 1/20W 470 OHM J
RD106	76011562	CHIP, 1/20W 5.6K OHM J
RD107	76011562	CHIP, 1/20W 5.6K OHM J
RE01	76366153	CARBON FILM, 1/6W 15K OHM J
RE02	76366473	CARBON FILM, 1/6W 47K OHM J
RE03	76366153	CARBON FILM, 1/6W 15K OHM J
RE04	76366222	CARBON FILM, 1/6W 2.2K OHM J
RE05	76366472	CARBON FILM, 1/6W 4.7K OHM J
RE06	76366473	CARBON FILM, 1/6W 47K OHM J
RE08	76366472	CARBON FILM, 1/6W 4.7K OHM J
RE09	76366473	CARBON FILM, 1/6W 47K OHM J
RE10	76367180	CARBON FILM, 1/6W 18 OHM G
RE11	76367222	CARBON FILM, 1/6W 2.2K OHM G
RE12	76366472	CARBON FILM, 1/6W 4.7K OHM J
RE13	76366102	CARBON FILM, 1/6W 1K OHM J
RE15	76366182	CARBON FILM, 1/6W 1.8K OHM J
RE16	76366473	CARBON FILM, 1/6W 47K OHM J
RE17	76366103	CARBON FILM, 1/6W 10K OHM J
RE18	76366153	CARBON FILM, 1/6W 15K OHM J
RE19	76366473	CARBON FILM, 1/6W 47K OHM J
RE27	76552102	OXIDE METAL FILM, 1/2W 1K OHM J
RE28	76552332	OXIDE METAL FILM, 1/2W 3.3K OHM J
RE29	76366103	CARBON FILM, 1/6W 10K OHM J
RE34	76366473	CARBON FILM, 1/6W 47K OHM J
RE40	76182047	METAL FILM 1/4W 33 F
RE41	76000360	METAL FILM, 1/4W 1.2K OHM F
RE43	76366102	CARBON FILM, 1/6W 1K OHM J
RE44	76366103	CARBON FILM, 1/6W 10K OHM J
RE45	76367101	CARBON FILM, 1/6W 100 OHM G
RE46	76367222	CARBON FILM, 1/6W 2.2K OHM G
RE60	76000142	METAL FILM, 1/4W 240 OHM F
RE61	76000360	METAL FILM, 1/4W 1.2K OHM F
RE63	76366102	CARBON FILM, 1/6W 1K OHM J
RE65	76367620	CARBON FILM 1/6W 62 G
RE66	76367222	CARBON FILM, 1/6W 2.2K OHM G
RE70	76366184	CARBON FILM, 1/6W 18OK OHM J
RE73	76366102	CARBON FILM, 1/6W 1K OHM J
RE85	76552102	OXIDE METAL FILM, 1/2W 1K OHM J
RE86	76366152	CARBON FILM, 1/6W 1.5K OHM J
RE87	76366473	CARBON FILM, 1/6W 47K OHM J
RE88	76366153	CARBON FILM, 1/6W 15K OHM J
RE90	76000155	METAL FILM, 1/4W 15 OHM F
RE91	76000358	METAL FILM, 1/4W 1K OHM F
RE92	76366101	CARBON FILM, 1/6W 100 OHM J
RE93	76366102	CARBON FILM, 1/6W 1K OHM J
RE94	76553101	OXIDE METAL FILM, 1W 100 OHM J
RE95	76552102	OXIDE METAL FILM, 1/2W 1K OHM J
RE96	76366473	CARBON FILM, 1/6W 47K OHM J
RE97	76366472	CARBON FILM, 1/6W 4.7K OHM J
RE98	76366473	CARBON FILM, 1/6W 47K OHM J
RE99	76366101	CARBON FILM, 1/6W 100 OHM J

Location No.	Parts No.	Description
RR01	76871750	CHIP, 1/8W 75 OHM J
RR02	76871750	CHIP, 1/8W 75 OHM J
RR03	76871750	CHIP, 1/8W 75 OHM J
RR04	76011330	CHIP, 1/20W 33 OHM J
RR05	76011330	CHIP, 1/20W 33 OHM J
RR06	76011330	CHIP, 1/20W 33 OHM J
RS16	76011473	CHIP, 1/20W 47K OHM J
RS17	76011473	CHIP, 1/20W 47K OHM J
RS18	76011103	CHIP, 1/20W 10K OHM J
RS19	76011104	CHIP, 1/20W 100K OHM J
RS20	76011104	CHIP, 1/20W 100K OHM J
RS25	76011101	CHIP, 1/20W 100 OHM J
RS26	76011101	CHIP, 1/20W 100 OHM J
RS27	76011222	CHIP, 1/20W 2.2K OHM J
RS28	76011222	CHIP, 1/20W 2.2K OHM J
RS29	76011102	CHIP, 1/20W 1K OHM J
RS30	76011102	CHIP, 1/20W 1K OHM J
RS31	76011104	CHIP, 1/20W 100K OHM J
RS32	76011104	CHIP, 1/20W 100K OHM J
RS33	76011473	CHIP, 1/20W 47K OHM J
RS34	76011473	CHIP, 1/20W 47K OHM J
RS35	76011104	CHIP, 1/20W 100K OHM J
RS40	76011472	CHIP, 1/20W 4.7K OHM J
RS41	76011472	CHIP, 1/20W 4.7K OHM J
RS42	76011472	CHIP, 1/20W 4.7K OHM J
RS43	76011472	CHIP, 1/20W 4.7K OHM J
RS44	76011472	CHIP, 1/20W 4.7K OHM J
RS45	76011472	CHIP, 1/20W 4.7K OHM J
RS46	76011472	CHIP, 1/20W 4.7K OHM J
RS47	76011472	CHIP, 1/20W 4.7K OHM J
RS48	76011472	CHIP, 1/20W 4.7K OHM J
RS49	76011472	CHIP, 1/20W 4.7K OHM J
RS50	76011472	CHIP, 1/20W 4.7K OHM J
RS51	76011472	CHIP, 1/20W 4.7K OHM J
RS52	76011472	CHIP, 1/20W 4.7K OHM J
RS53	76011472	CHIP, 1/20W 4.7K OHM J
RS54	76011682	CHIP, 1/20W 6.8K OHM J
RS55	76011472	CHIP, 1/20W 4.7K OHM J
RS56	76011472	CHIP, 1/20W 4.7K OHM J
RS58	76011101	CHIP, 1/20W 100 OHM J
RS59	76011101	CHIP, 1/20W 100 OHM J
RS60	76011101	CHIP, 1/20W 100 OHM J
RS61	76011101	CHIP, 1/20W 100 OHM J
RS64	76011682	CHIP, 1/20W 6.8K OHM J
RS65	76011182	CHIP, 1/20W 1.8K OHM J
RS66	76011100	CHIP, 1/20W 10 OHM J
RS78	76011102	CHIP, 1/20W 1K OHM J
RS81	76011102	CHIP, 1/20W 1K OHM J
RS82	76011682	CHIP, 1/20W 6.8K OHM J
RS85	76011472	CHIP, 1/20W 4.7K OHM J
RS86	76011472	CHIP, 1/20W 4.7K OHM J
RS87	76011101	CHIP, 1/20W 100 OHM J
RS88	76011101	CHIP, 1/20W 100 OHM J
RS500	76011103	CHIP, 1/20W 10K OHM J
RS501	76011153	CHIP, 1/2OW 15K OHM J
RS504	76011153	CHIP, 1/2OW 15K OHM J
RS505	76011103	CHIP, 1/20W 10K OHM J
RS516	76011101	CHIP, 1/20W 100 OHM J
RS517	76011101	CHIP, 1/20W 100 OHM J
RV07	76011750	CHIP, 1/20W 75 OHM J
RV18	76011750	CHIP, 1/20W 75 OHM J
RV19	76011750	CHIP, 1/20W 75 OHM J
RV20	76000445	CHIP JUMPER, 1608TYPE
RV21	76011750	CHIP, 1/20W 75 OHM J
RV25	76011750	CHIP, 1/20W 75 OHM J
RV26	76011750	CHIP, 1/20W 75 OHM J

Location No.	Parts No.	Description
RV27	76011750	CHIP, 1/20W 75 OHM J
RV28	76011750	CHIP, 1/20W 75 OHM J
RV29	76011750	CHIP, 1/20W 75 OHM J
RV30	76011750	CHIP, 1/20W 75 OHM J
RV31	76011750	CHIP, 1/20W 75 OHM J
RV32	76011750	CHIP, 1/20W 75 OHM J
RV33	76011750	CHIP, 1/20W 75 OHM J
RV34	76011331	CHIP, 1/20W 330 OHM J
RV41	76000445	CHIP JUMPER, 1608TYPE
RV42	76000445	CHIP JUMPER, 1608TYPE
RV43	76000445	CHIP JUMPER, 1608TYPE
RV44	76000445	CHIP JUMPER, 1608TYPE
RV45	76011750	CHIP, 1/20W 75 OHM J
RV46	76011750	CHIP, 1/20W 75 OHM J
RV61	76011222	CHIP, 1/20W 2.2K OHM J
RV62	76011391	CHIP, 1/20W 390 OHM J
RV76	76011750	CHIP, 1/20W 75 OHM J
RV78	76011123	CHIP, 1/20W 12K OHM J
RV200	76000445	CHIP JUMPER, 1608TYPE
RV201	76000445	CHIP JUMPER, 1608TYPE
RV202	76000445	CHIP JUMPER, 1608TYPE
RV203	76000445	CHIP JUMPER, 1608TYPE
RV204	76000445	CHIP JUMPER, 1608TYPE
RV205	76000445	CHIP JUMPER, 1608TYPE
RV280	76000445	CHIP JUMPER, 1608TYPE
RV281	76000445	CHIP JUMPER, 1608TYPE
RV287	76000445	CHIP JUMPER, 1608TYPE
RV288	76000445	CHIP JUMPER, 1608TYPE
RV289	76000445	CHIP JUMPER, 1608TYPE
RV290	76000445	CHIP JUMPER, 1608TYPE
RV291	76000445	CHIP JUMPER, 1608TYPE
RV292	76000445	CHIP JUMPER, 1608TYPE
RV306	76011473	CHIP, 1/20W 47K OHM J
RV414	76011222	CHIP, 1/20W 2.2K OHM J
RV415	76011222	CHIP, 1/20W 2.2K OHM J
RV416	76011222	CHIP, 1/20W 2.2K OHM J

COIL & TRANSFORMERS

L101	23248398	COIL, CHOKE, TLN3278D
L102	23103828	INDUCTOR, BEAD, TEM2121M
L103	23103828	INDUCTOR, BEAD, TEM2121M
L151	23103828	INDUCTOR, BEAD, TEM2121M
L152	23103828	INDUCTOR, BEAD, TEM2121M
L820	23248491	COIL, CHOKE 26X13 108MMH 5A TLN3641AF
L821	23248491	COIL, CHOKE 26X13 108MMH 5A TLN3641AF
L824	23103330	FILTER, FERRITE CHOKE 3.5X5X2 TEM2014AH
L825	23103304	FERRITE CHOKE, TEM2011AA
L840	23289981	COIL, PEAKING, TRF4330AZ
L860	23103320	COIL, CHOKE, TEM2011
L862	23103320	COIL, CHOKE, TEM2011
L870	23103320	COIL, CHOKE, TEM2011
L871	23103320	COIL, CHOKE, TEM2011
L878	23248489	COIL, CHOKE COIL 1.5MMH 8A TLN3639AH
L880	23103304	FERRITE CHOKE, TEM2011AA
L881	23248388	COIL, CHOKE 9X11H 4.7MMHK 4.0A TLN3515AA
L883	23103304	FERRITE CHOKE, TEM2011AA
L884	23248387	COIL, CHOKE 9X11H 22MMHK 2.5A TLN3499AA
L886	23103304	FERRITE CHOKE, TEM2011AA
L8211	23103330	FILTER, FERRITE CHOKE 3.5X5X2 TEM2014AH
L8212	23103330	FILTER, FERRITE CHOKE 3.5X5X2 TEM2014AH
LD01	23103238	INDUCTOR, BEAD, TEM2142AD
LD40	23103230	INDUCTOR, BEAD, TEM2134AD
LD41	23103230	INDUCTOR, BEAD, TEM2134AD
LD42	23103230	INDUCTOR, BEAD, TEM2134AD
LD43	23103230	INDUCTOR, BEAD, TEM2134AD
LD44	23103230	INDUCTOR, BEAD, TEM2134AD
LD61	23103230	INDUCTOR, BEAD, TEM2134AD
LD62	23103230	INDUCTOR, BEAD, TEM2134AD
LD63	23103230	INDUCTOR, BEAD, TEM2134AD
LD64	23103230	INDUCTOR, BEAD, TEM2134AD
LD65	23103230	INDUCTOR, BEAD, TEM2134AD
LE10	23289980	COIL, PEAKING, TRF4220AZ
LE40	23248456	COIL, CHOKE, TLN3540AH
LE41	23289980	COIL, PEAKING, TRF4220AZ
LE42	23248387	COIL, CHOKE 9X11H 22MMHK 2.5A TLN3499AA
LE60	23248456	COIL, CHOKE, TLN3540AH
LE61	23289980	COIL, PEAKING, TRF4220AZ
LE62	23248387	COIL, CHOKE 9X11H 22MMHK 2.5A TLN3499AA
LE70	23248387	COIL, CHOKE 9X11H 22MMHK 2.5A TLN3499AA
LE71	23248386	COIL, CHOKE 9X11H 2.0MMH 4.0A TLN3481AA
LE90	23248456	COIL, CHOKE, TLN3540AH
LE91	23289980	COIL, PEAKING, TRF4220AZ
LE92	23248387	COIL, CHOKE 9X11H 22MMHK 2.5A TLN3499AA
LV29	23246654	COIL, CHIP, TRF4220CG
LV31	23246662	COIL, CHIP, TRF4100CN
LV247	23246662	COIL, CHIP, TRF4100CN
⚠ T801	23211904	COIL, LINE FILTER 35X34H 10MH TRF3255AF
T802	23211904	COIL, LINE FILTER 35X34H 10MH TRF3255AF
T820	23217799	TRANSFORMER,CONVERTERTPW3564AS
T822	23248490	COIL, CHOKE EI25 5.3MMH 8.0A TLN3640AH
T840	23217800	TRANSFORMER,CONVERTERTPW3565AS
T860	23217802	TRANSFORMER,CONVERTERTPW3567AS
T880	23217801	TRANSFORMER,CONVERTERTPW3566AS

SEMICONDUCTORS

Q101	23205506	TRANSISTOR, 2SC4081 Q
Q161	23205506	TRANSISTOR, 2SC4081 Q
Q660	23205506	TRANSISTOR, 2SC4081 Q
Q661	23205506	TRANSISTOR, 2SC4081 Q
Q663	23205506	TRANSISTOR, 2SC4081 Q
Q664	23205506	TRANSISTOR, 2SC4081 Q
Q665	23205325	TRANSISTOR,RN2404(F)
Q670	23085039	IC, TA8246AHQ
Q671	23205302	TRANSISTOR,2SC3326-B(F)
Q672	23205302	TRANSISTOR,2SC3326-B(F)
Q673	23205443	TRANSISTOR,2SA1162-Y(F)
Q812	23205506	TRANSISTOR, 2SC4081 Q
Q813	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q814	23205506	TRANSISTOR, 2SC4081 Q
Q815	23205506	TRANSISTOR, 2SC4081 Q
Q816	23205506	TRANSISTOR, 2SC4081 Q
Q820	23135094	IC, PFC 7PIN SRX2039
Q821	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q822	23205339	TRANSISTOR,2SC2655-Y(F)
Q840	23135083	IC, HYBRID VDSS=800V
Q841	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q842	23085389	IC, NJM431L
Q860	23135066	IC, STRZ4479
Q862	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q863	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q864	23205339	TRANSISTOR,2SC2655-Y(F)
Q870	23085389	IC, NJM431L
Q880	23135072	IC, STRW6765
Q881	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q882	23085389	IC, NJM431L
Q4100	23085635	TRANSISTOR,2SC3437-Y(TE85L,F)
Q4101	23085635	TRANSISTOR,2SC3437-Y(TE85L,F)
Q4102	23085635	TRANSISTOR,2SC3437-Y(TE85L,F)
Q4103	23085635	TRANSISTOR,2SC3437-Y(TE85L,F)
Q8191	23205506	TRANSISTOR, 2SC4081 Q
Q8230	23205328	TRANSISTOR,RN1405(F)
Q8231	23205506	TRANSISTOR, 2SC4081 Q

Location No.	Parts No.	Description
Q8310	23205328	TRANSISTOR,RN1405(F)
Q8311	23205506	TRANSISTOR, 2SC4081 Q
Q8312	23205506	TRANSISTOR, 2SC4081 Q
Q8390	23205506	TRANSISTOR, 2SC4081 Q
Q8391	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q8601	23205329	TRANSISTOR,RN1404(F)
Q8602	23205506	TRANSISTOR, 2SC4081 Q
Q8701	23205506	TRANSISTOR, 2SC4081 Q
Q8702	23205329	TRANSISTOR,RN1404(F)
Q8703	23205328	TRANSISTOR,RN1405(F)
Q8704	23085338	IC, BD5245G-TR
Q8801	23205329	TRANSISTOR,RN1404(F)
Q8802	23205329	TRANSISTOR,RN1404(F)
QB04	23205463	TRANSISTOR,2SC2712-Y(TE85L,F)
QB07	23205463	TRANSISTOR,2SC2712-Y(TE85L,F)
QD20	23085576	IC, OP AMP, BA4558F
QE01	23205313	TRANSISTOR,2SC1815-Y(F)
QE02	23205313	TRANSISTOR,2SC1815-Y(F)
QE03	23205315	TRANSISTOR,RN1206(F)
QE04	23205313	TRANSISTOR,2SC1815-Y(F)
QE10	23135077	IC, SI-3090CA
QE11	23205315	TRANSISTOR,RN1206(F)
QE25	23205340	TRANSISTOR,2SA1020-Y(F)
⚠ QE26	23205313	TRANSISTOR,2SC1815-Y(F)
QE40	23085381	IC, SI-8050SS
QE41	23205315	TRANSISTOR,RN1206(F)
QE42	23205318	TRANSISTOR,RN1203(F)
QE45	23085396	IC, SI-3033CA(LF1101)
QE60	23085381	IC, SI-8050SS
QE61	23205315	TRANSISTOR,RN1206(F)
QE65	23135076	IC, SI-3050C
QE66	23205315	TRANSISTOR,RN1206(F)
QE70	23135084	IC, MPD6S011S
QE71	23205324	TRANSISTOR,RN2004(F)
QE85	23205340	TRANSISTOR,2SA1020-Y(F)
QE86	23205313	TRANSISTOR,2SC1815-Y(F)
QE90	23085381	IC, SI-8050SS
QE91	23205313	TRANSISTOR,2SC1815-Y(F)
QE92	23205313	TRANSISTOR,2SC1815-Y(F)
QE93	23205315	TRANSISTOR,RN1206(F)
QE95	23205442	TRANSISTOR,2SC3852
QS01	23009916	IC, MM1631AJBE
QS03	23205302	TRANSISTOR,2SC3326-B(F)
QS04	23205302	TRANSISTOR,2SC3326-B(F)
QS05	23205325	TRANSISTOR,RN2404(F)
QS08	23205506	TRANSISTOR, 2SC4081 Q
QS09	23205506	TRANSISTOR, 2SC4081 Q
QS10	23205302	TRANSISTOR,2SC3326-B(F)
QS11	23205302	TRANSISTOR,2SC3326-B(F)
QS19	23205506	TRANSISTOR, 2SC4081 Q
QS102	23085576	IC, OP AMP, BA4558F
QV16	23085823	IC, 2IN-1OUTSW 6DBAMP CLP(PB F MM1508XNRE
QV17	23205329	TRANSISTOR,RN1404(F)
QV22	23205507	TRANSISTOR, 2SA1576A Q
QV282	23085352	IC, M52055FP
QV283	23205329	TRANSISTOR,RN1404(F)
D670	23362140	DIODE,KDS160-RTK
D671	23362140	DIODE,KDS160-RTK
D674	23362140	DIODE,KDS160-RTK
D675	23362140	DIODE,KDS160-RTK
D676	23362140	DIODE,KDS160-RTK
D678	23362140	DIODE,KDS160-RTK
D679	23362140	DIODE,KDS160-RTK
D681	23362140	DIODE,KDS160-RTK
D809	76000656	VARISTOR,TNR15G471K
D811	23357636	DIODE, ZENER, RD6.8ESA B1

Location No.	Parts No.	Description
D815	23357692	DIODE, ZENER, RD2.0ESA B2
D816	23357738	DIODE, ZENER, MA8047-L
D819	23357718	THYRISTOR,SF0R3G42(N,G5H1)
D820	23357913	DIODE, RBV-1506, LF-A
D821	23362240	DIODE, VRM=1200V IF(AV)=3A FMC-26UAR
D822	23362220	DIODE, VRM=600V IF=5A FMX-G16S
D823	23362223	DIODE, VRM=600V IF=1.2A DO201AD :RM3A,LF014-102
D825	23357899	DIODE, ZENER, MTZJ33A
D826	23357513	DIODE, EU2A
D828	76000656	VARISTOR,TNR15G471K
D841	23362221	DIODE, VRM=1000V 1.0A EM1C,LF-F7
D842	23362221	DIODE, VRM=1000V 1.0A EM1C,LF-F7
D843	23357854	DIODE, ZENER, MTZJ10B
D844	23357837	DIODE, ZENER, MTZJ5.6B
D845	23357510	DIODE, AG01
D846	23357513	DIODE, EU2A
D860	23357850	DIODE, ZENER, MTZJ9.1A
D861	23357893	DIODE, ZENER, MTZJ27C
D862	23357893	DIODE, ZENER, MTZJ27C
D863	23357854	DIODE, ZENER, MTZJ10B
D864	23357854	DIODE, ZENER, MTZJ10B
D865	23357513	DIODE, EU2A
D866	23357853	DIODE, ZENER, MTZJ10A
D870	23362219	DIODE, VRM=100V IF=20A FME-220A(023-108)
D871	23362219	DIODE, VRM=100V IF=20A FME-220A(023-108)
D874	23362219	DIODE, VRM=100V IF=20A FME-220A(023-108)
D880	23357513	DIODE, EU2A
D881	23357104	DIODE, 1SS244
D882	23357104	DIODE, 1SS244
D883	23357837	DIODE, ZENER, MTZJ5.6B
D884	23362219	DIODE, VRM=100V IF=20A FME-220A(023-108)
D885	23357513	DIODE, EU2A
D886	23357408	DIODE, FMX-12S(023-108)
D887	23357900	DIODE, ZENER, MTZJ33B
D888	23357848	DIODE, ZENER, MTZJ8.2B
D889	23357848	DIODE, ZENER, MTZJ8.2B
D890	23357847	DIODE, ZENER, MTZJ8.2A
D891	23357847	DIODE, ZENER, MTZJ8.2A
D892	23357892	DIODE, ZENER, MTZJ27B
D8230	23357792	DIODE, ZENER 22.80-23.97 MA8240-L, TX
D8231	23357703	DIODE, 1SS355
D8232	23357745	DIODE, ZENER, MA8056-M
D8271	23357697	DIODE, 1SS133
D8272	23357910	DIODE, ZENER, MTZJ39D
D8273	23357883	DIODE, ZENER, MTZJ22A
D8274	23357883	DIODE, ZENER, MTZJ22A
D8310	23357703	DIODE, 1SS355
D8311	23357745	DIODE, ZENER, MA8056-M
D8312	23357703	DIODE, 1SS355
D8313	23357762	DIODE, ZENER, MA8091-M
D8390	23357889	DIODE, ZENER, MTZJ24C
D8391	23357890	DIODE, ZENER, MTZJ24D
D8401	23357703	DIODE, 1SS355
D8402	23357703	DIODE, 1SS355
D8403	23357703	DIODE, 1SS355
D8404	23357703	DIODE, 1SS355
D8601	23357703	DIODE, 1SS355
D8602	23357731	DIODE, ZENER, MA8033-H
D8701	23357703	DIODE, 1SS355
D8702	23357703	DIODE, 1SS355
D8705	23357894	DIODE, ZENER, MTZJ27D
D8706	23357703	DIODE, 1SS355
D8801	23357703	DIODE, 1SS355
D8802	23357703	DIODE, 1SS355
D8803	23357778	DIODE, ZENER, MA8150-M
D8804	23357703	DIODE, 1SS355

Location No.	Parts No.	Description
D8805	23357745	DIODE, ZENER, MA8056-M
DA11	23362042	DIODE, ZENER, UDZS6.8B
DA12	23362042	DIODE, ZENER, UDZS6.8B
DA13	23362042	DIODE, ZENER, UDZS6.8B
DA14	23362042	DIODE, ZENER, UDZS6.8B
DA15	23362042	DIODE, ZENER, UDZS6.8B
DB01	23358606	DIODE, LED RED, SLR-56VC3FPQ
DB04	23358605	DIODE, LED GREEN, SLR-56MC3FPQR
DB20	23357406	DIODE, ZENER, UDZS5.6B
DB22	23357703	DIODE, 1SS355
DB23	23357703	DIODE, 1SS355
DD81	23357745	DIODE, ZENER, MA8056-M
DE01	23357706	DIODE, AK04
DE02	23357706	DIODE, AK04
DE03	23357823	DIODE, ZENER, MTZJ3.6A
DE04	23357821	DIODE, ZENER, MTZJ3.3A
DE05	23357499	DIODE, ERB12-01
DE06	23357697	DIODE, 1SS133
DE07	23357821	DIODE, ZENER, MTZJ3.3A
DE08	23357499	DIODE, ERB12-01
DE09	23357697	DIODE, 1SS133
DE40	23357810	DIODE, FMB-G14L
DE41	23357697	DIODE, 1SS133
DE42	23357912	DIODE, ZENER, MTZJ6.2C
DE60	23357810	DIODE, FMB-G14L
DE61	23357697	DIODE, 1SS133
DE62	23357845	DIODE, ZENER, MTZJ7.5B
DE71	23357697	DIODE, 1SS133
DE72	23357829	DIODE, ZENER, MTZJ4.3C
DE74	23357697	DIODE, 1SS133
DE90	23357810	DIODE, FMB-G14L
DE91	23357697	DIODE, 1SS133
DE92	23357912	DIODE, ZENER, MTZJ6.2C
DE97	23357895	DIODE, ZENER, MTZJ30A
DE99	23357840	DIODE, ZENER, MTZJ6.2B
DR01	23357765	DIODE, ZENER, MA8100-M
DR02	23357765	DIODE, ZENER, MA8100-M
DR03	23357765	DIODE, ZENER, MA8100-M

MISCELLANEOUS

⚠ B001	23301643	DISPLAY, 05SHP32 LQ315T3LZ21
B214	23469396	INSULATOR, INSULATOR POWER
B310	23717219	SCREW, PP3X8+SW+W SBN
B313	23717306	SCREW WITH WASHER
B401	23717225	SCREW, PP4X20+SW+W SBN
⚠ BD01	23771573	DVD-LOADER, RL-SL2003 RL-SL2003
D820B	23717240	SCREW
D821B	23717240	SCREW
D822B	23717240	SCREW
D870B	23717240	SCREW
D871B	23717240	SCREW
D874B	23717240	SCREW
D884B	23717240	SCREW
D886B	23717240	SCREW
⚠ F801	23144406	FUSE, CERA 5X20 250V 6.3A
F801A	23165433	FUSE HOLDER, 5.2
F801B	23165433	FUSE HOLDER, 5.2
F820	23144378	FUSE, RADIAL LEAD SUB-MINIATUR 250V 2A
F870	23144378	FUSE, RADIAL LEAD SUB-MINIATUR 250V 2A
GJ413	76000445	CHIP JUMPER, 1608TYPE
GJ414	76000445	CHIP JUMPER, 1608TYPE
GR02	76000445	CHIP JUMPER, 1608TYPE
GR03	76000445	CHIP JUMPER, 1608TYPE
GR04	76000445	CHIP JUMPER, 1608TYPE
GR05	76000445	CHIP JUMPER, 1608TYPE
GR110	76000445	CHIP JUMPER, 1608TYPE
GR112	76000445	CHIP JUMPER, 1608TYPE
GR113	76000445	CHIP JUMPER, 1608TYPE
GR150	76000445	CHIP JUMPER, 1608TYPE
GRV55	76000445	CHIP JUMPER, 1608TYPE
GRV56	76000445	CHIP JUMPER, 1608TYPE
GRV57	76000445	CHIP JUMPER, 1608TYPE
H003	23344525	SWITCH, 2I3O BUNPAI US DIG RSU143
H003A	23368943	CABLE, PH0NO 350MM JLC YAF11-1194N
H003B	23368943	CABLE, PH0NO 350MM JLC YAF11-1194N
H003C	23747055	NUT, F-CONNECTOR 2H BS
K903	23306644	REMOCON IR, IR BLASTER G-LINK VTR CONT
KB01	23009710	REMOCON RECEIVER, GP1UE281RK
MJ22	23389359	CABLE, FFC 0.5 50P L70 GOLD
MJ60	23389359	CABLE, FFC 0.5 50P L70 GOLD
MV97	23389343	FFC, 20706SFWR-P=1.0-L1-13-262 P1.00-13P-270B(WR)
MZ01	23368908	CABLE, LVDS30P170MM SHP T2 E30-X30
P602A	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
P602B	23713946	CONNECTOR, PLUG 4P S4B-PH-K-S(LF)
P661	23023302	EARPHONE JACK
P801	23372264	POWER CORD, U/C 125V10A HSV 5 CMC-02P 11111
P801A	23713702	PLUG, 2P 11.88MM W VT
P802A	23757043	CONNECTOR, PLUG JST-VT B02B-VT-K(LF)(SN)
P802B	23757043	CONNECTOR, PLUG JST-VT B02B-VT-K(LF)(SN)
⚠ P803A	23713762	PLUG, NP 2.5MM G, B11B-EH-F1A
⚠ P803B	23713762	PLUG, NP 2.5MM G, B11B-EH-F1A
P804A	23713761	PLUG, NP 2.5MM G, B10B-EH-F1A
P804B	23713761	PLUG, NP 2.5MM G, B10B-EH-F1A
P805A	23713763	PLUG, NP 2.5MM G, B12B-EH-F1A
P805B	23713763	PLUG, NP 2.5MM G, B12B-EH-F1A
P807A	23713764	PLUG, 13P
P807B	23713764	PLUG, 13P
P809A	23713763	PLUG, NP 2.5MM G, B12B-EH-F1A
P809B	23713763	PLUG, NP 2.5MM G, B12B-EH-F1A
P860	23713942	CONNECTOR, CONNECT B10B-PH-K-S(LF)
P861	23713942	CONNECTOR, CONNECT B10B-PH-K-S(LF)
PD02A	23713940	CONNECTOR, CONNECT B8B-PH-K-S(LF)
PD03A	23713944	CONNECTOR, CONNECT B12B-PH-K-S(LF)
PD05A	23757006	CONNECTOR, 20P TOPTYPE B20B-PHDSS(LF)
PG01	23165495	TERMINAL, EARTH PHI3 MET31-0332
PG03	23165495	TERMINAL, EARTH PHI3 MET31-0332
PJ21A	23713934	CONNECTOR, 2MM 3P S WHT B3B-PH-K-S(LF)
PJ22A	23757176	CONNECTOR, IRS 9637S-50Y902 GLD
PJ40A	23757001	CONNECTOR, 10P TOPTYPE B10B-PHDSS(LF)
PJ41A	23713943	CONNECTOR, CONNECT B11B-PH-K-S(LF)
PJ43	23713946	CONNECTOR, PLUG 4P S4B-PH-K-S(LF)
PJ43A	23713946	CONNECTOR, PLUG 4P S4B-PH-K-S(LF)
PJ60A	23757176	CONNECTOR, IRS 9637S-50Y902 GLD
⚠ PJ62A	23713910	CONNECTOR, CONNECTOR B5P-VH(LF)
⚠ PJ63A	23713756	PLUG, 5P 2.5MM G, B5B-EH-F1-TV4
PP02	23974994	BAND, KESSOKU
PP08	23974994	BAND, KESSOKU
PP12	23974994	BAND, KESSOKU
PS15	23023302	EARPHONE JACK
PV11	23023424	JACK, PIN RA 1S6P SMK T-5P
PV12	23023425	JACK, PIN RA 5P SMK T-7P
PV13	23023425	JACK, PIN RA 5P SMK T-7P
PV14	23023426	JACK, PIN RA 5P SMK T-7P
PV15	23023419	JACK, PIN RA RESERVE RESERVE T-2P
PV25B	23713949	CONNECTOR, CONNECT S7B-PH-K-S(LF)
PV60	23365275	JACK, PHONO 3P V-L-R YKC21
PV90	23713710	SOCKET, D-SUB 15P, KRD-8622
PV97A	23757057	CONNECTOR, 13FMN-BTK-A(LF)(SN)
PV97B	23757057	CONNECTOR, 13FMN-BTK-A(LF)(SN)
Q670B	23717240	SCREW
Q820B	23717240	SCREW
Q880B	23717240	SCREW

Location No.	Parts No.	Description
QE10B	23717240	SCREW
QE40B	23717240	SCREW
QE45B	23717240	SCREW
QE60B	23717240	SCREW
QE90B	23717240	SCREW
QE95B	23717240	SCREW
SA01	23344505	SWITCH, PUSH 1C1P
SA02	23344505	SWITCH, PUSH 1C1P
SA03	23344505	SWITCH, PUSH 1C1P
SA04	23344505	SWITCH, PUSH 1C1P
SA05	23344505	SWITCH, PUSH 1C1P
SA06	23344505	SWITCH, PUSH 1C1P
SA07	23344505	SWITCH, PUSH 1C1P
SA08	23344505	SWITCH, PUSH 1C1P
SA11	23344505	SWITCH, PUSH 1C1P
SA12	23344505	SWITCH, PUSH 1C1P
SA13	23344505	SWITCH, PUSH 1C1P
SA14	23344505	SWITCH, PUSH 1C1P
SA15	23344505	SWITCH, PUSH 1C1P
SR80	23146588	RELAY, DLS5D1-O(M) 0.15W
⚠ SR81	23146584	RELAY, DC12V, TV5, DG-3
UF01	23125932	MOTOR, DCFAN 12V 60MM 150, D06R-12SL11B
⚠ UF03	23125942	MOTOR, DCFAN12V60MMPOD D06R-12TS1002BC2
W661	23351321	SPEAKER, ASSY, 6X12+TW 8-OHM 10 SPK-1469AO
ZA01	23103840	FERRITE CORE, TFE1013
ZA02	23103778	FERRITE CORE, TFE1008

PC BOARD ASSEMBLIES

✻ U101	75001574	PC BOARD ASSY, PD2222A1 SIGNAL DVD-LCD
✻ U102	75001577	PC BOARD ASSY, PD2266F1 SEINE FOR FPD
✻ U103	75001699	PC BOARD ASSY, PD2301A1 D-TUNER
✻ U104A	75001579	PC BOARD ASSY, PD2219A1 TN/AV-AOUT
✻ U104B	75001580	PC BOARD ASSY, PD2219A2 FRONT AV
✻ U104C	75001581	PC BOARD ASSY, PD2219A3 LED-RMT
✻ U104D	75001582	PC BOARD ASSY, PD2219A4 KEY-SW
✻ U104E	75001583	PC BOARD ASSY, PD2219A5 PC-IN
✻ U104F	75001584	PC BOARD ASSY, PD2219A6 DVD-KEY
✻ U801	75001585	PC BOARD ASSY, PD2171C1 POWER
✻ U802	75001586	PC BOARD ASSY, PD2171C2 AC-IN
✻ U803	75001578	PC BOARD ASSY, PD2189B1 LOWB

TUNER

⚠ H001	23321536	TUNER, TIF US HOR IIC PH 864M ENG36A36GF

ACCESSORIES

A701	23015176	CARTON, CASE 32HLX95
A702A	23580043	PACKING, TOP PACKING 32HLX95
A702B	23580044	PACKING, BOTTOM PACKING 32HLX95
A704	23946940	PACKING, CENTER PACKING
⚠ K902	23306630	REMOCON HAND UNIT IR, CTVUSA CT-90236
⚠ Y101	23566698	OWNERS MANUAL, ENG/FRE/SPA 32HLX95
Y170	23845800	HOLDER, WIRE, NYLON66 D6.8

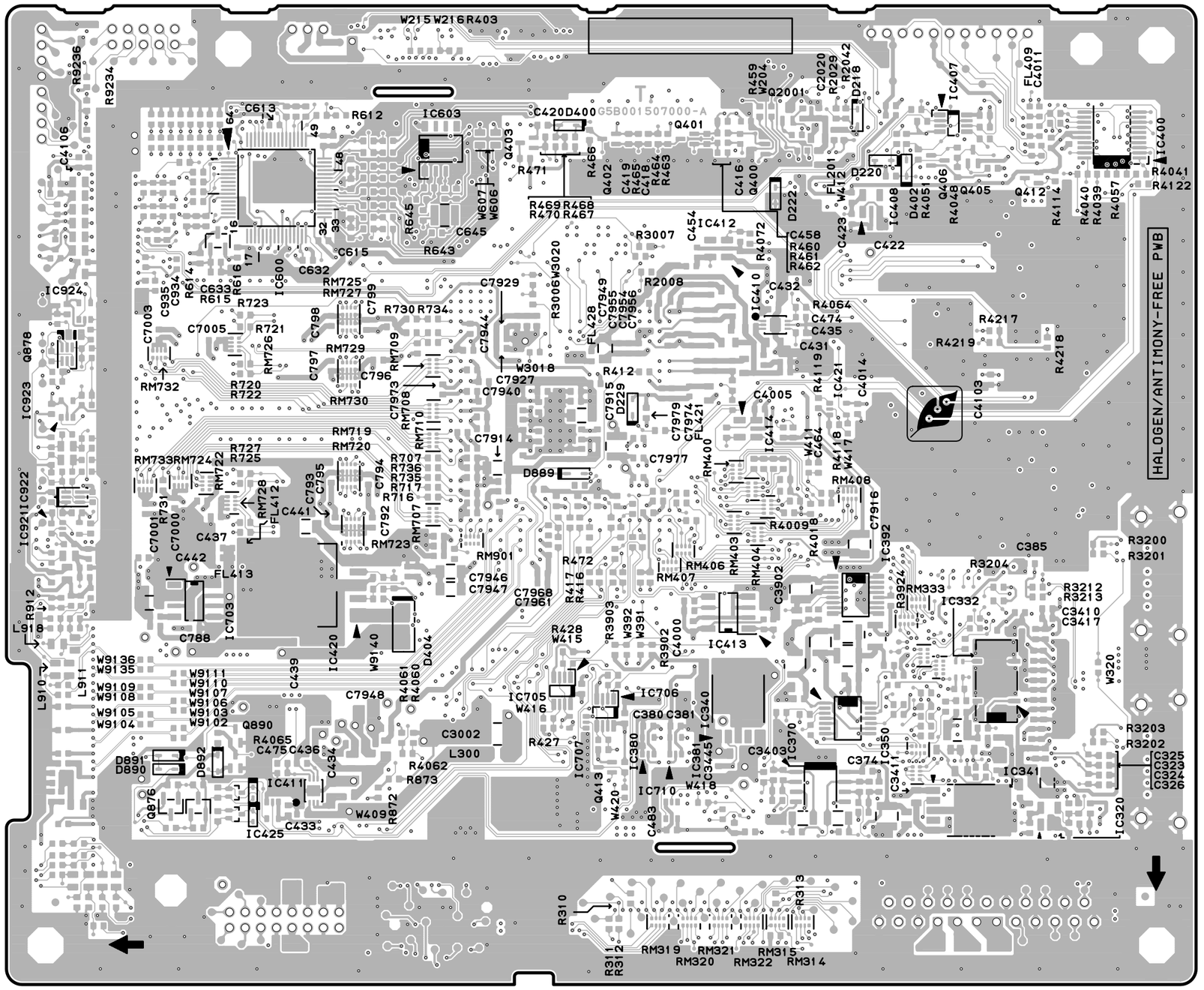
Location No.	Parts No.	Description

CABINET PARTS

⚠ A201	23533602	COVER, FRONT BEZEL ASSY 32HLX95
⚠ A315	23533597	COVER, BACK CENTER COVER 32HLX95
⚠ A320	23940490	PIECE, FRONT AV ASSY 32HLX95
⚠ A340	23940497	PIECE, CONTROL HOLDER ASSY 32HLX95
A385	23717219	SCREW, PP3X8+SW+W SBN
A387	23717267	SCREW, BITTB4X16 SBN 32LZ100
⚠ A401	23533593	COVER, BACK COVER 32HLX95
A410	23717219	SCREW, PP3X8+SW+W SBN
A411	23717267	SCREW, BITTB4X16 SBN 32LZ100
A412	23717214	SCREW, BITTB3X12SBN
A440	23738074	SCREW, PP 5X16 SW+W SBN
⚠ A445	23533890	COVER, CABLE COVER BOTTOM ASSY 32HLX95
⚠ A450	23533595	COVER, CABLE COVER SIDE 32HLX95
A540	23717219	SCREW, PP3X8+SW+W SBN
A541	23940491	PIECE, PIECE DVD PANEL ASSY 32HLX95
A545	23940499	PIECE, PIECE DVD CASE BTM 32HLX95
B420	23436880	FOOT, STAND ASSY

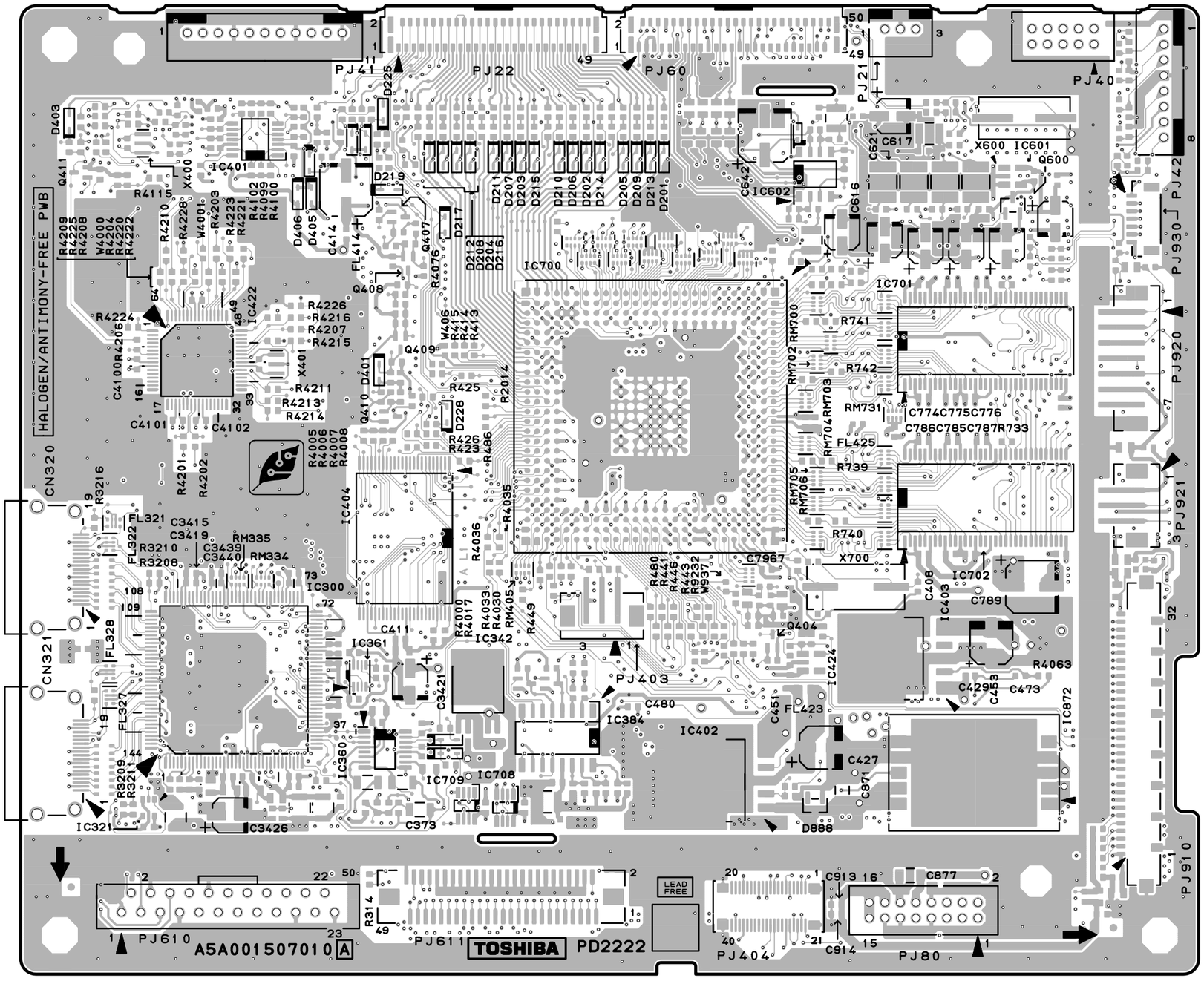
SIGNAL DVD-LCD BOARD PD2222A1 (U101)

BOTTOM (FOIL) SIDE



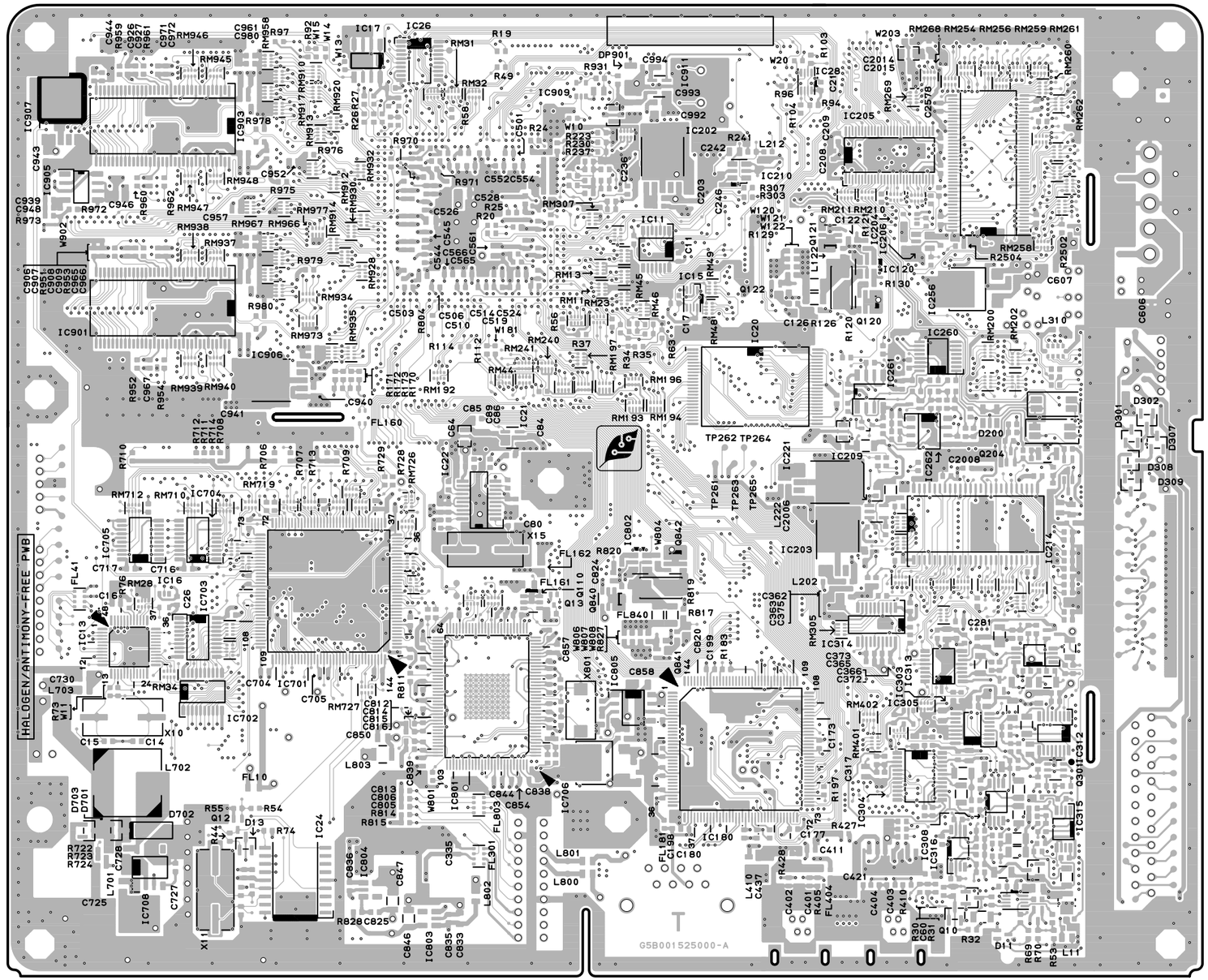
SIGNAL DVD-LCD BOARD PD2222A1 (U101)

TOP (COMPONENT) SIDE



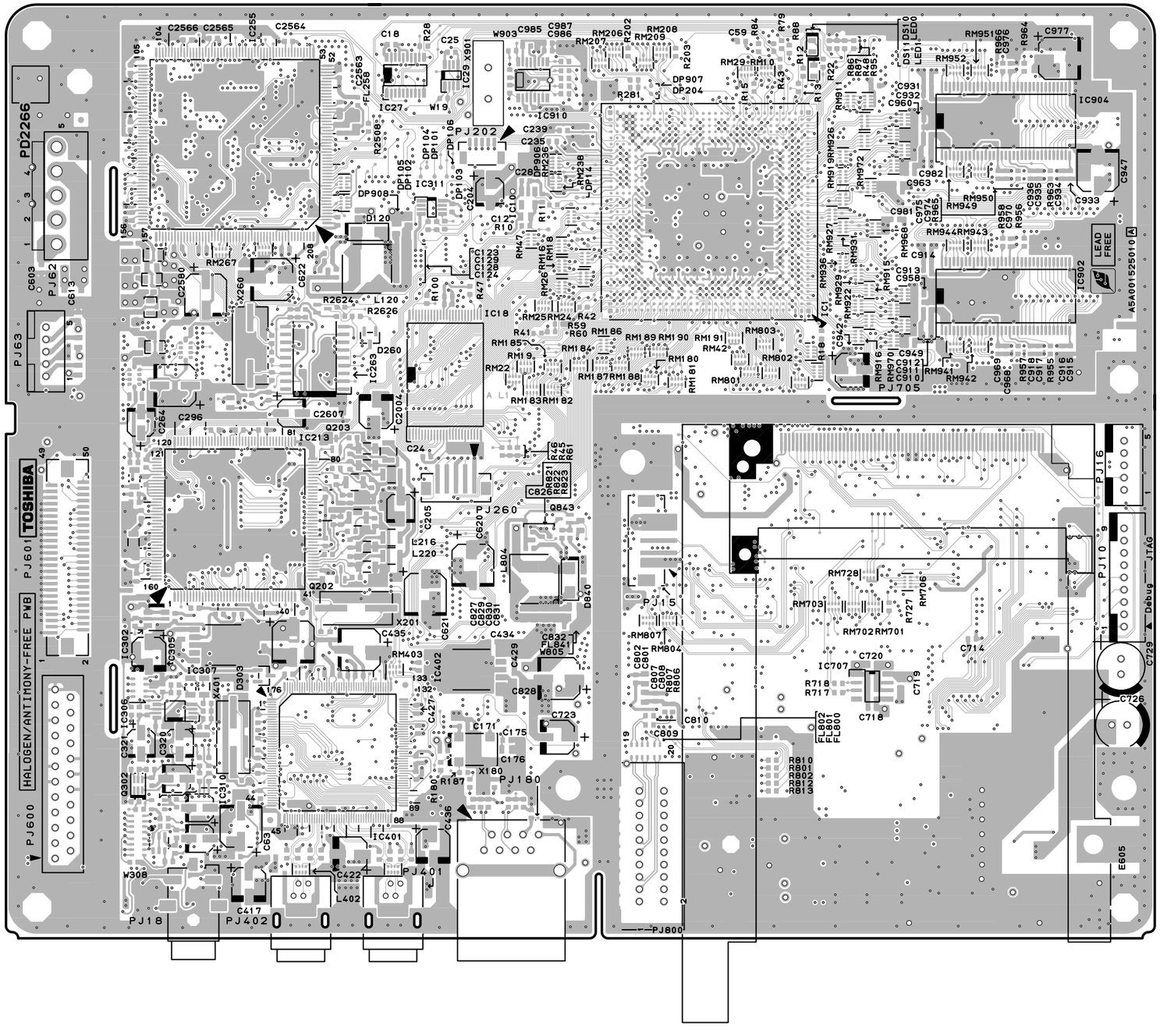
SEINE FOR FPD BOARD PD2266F1 (U102)

BOTTOM (FOIL) SIDE



SEINE FOR FPD BOARD PD2266F1 (U102)

TOP (COMPONENT) SIDE


PD2266
TOSHIBA
HALOGEN/ANTIMONY-FREE PWB
PJ601
PJ600
PJ63
PJ62
PJ705
PJ202
PJ260
PJ180
PJ401
PJ402
PJ18
PJ800
PJ16
PJ103
Debug
JTAG
LEAD FREE
IC904
IC902
IC910
IC213
IC401
IC707
IC27
IC311
IC307
IC18
IC1
IC15
IC302
IC402
X201
X180
X260
X400
Q203
Q202
Q302
Q843
D120
D260
D420
D303
W903
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C977
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C913
C958
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C910
C911
C809
C810
C718
C719
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C729
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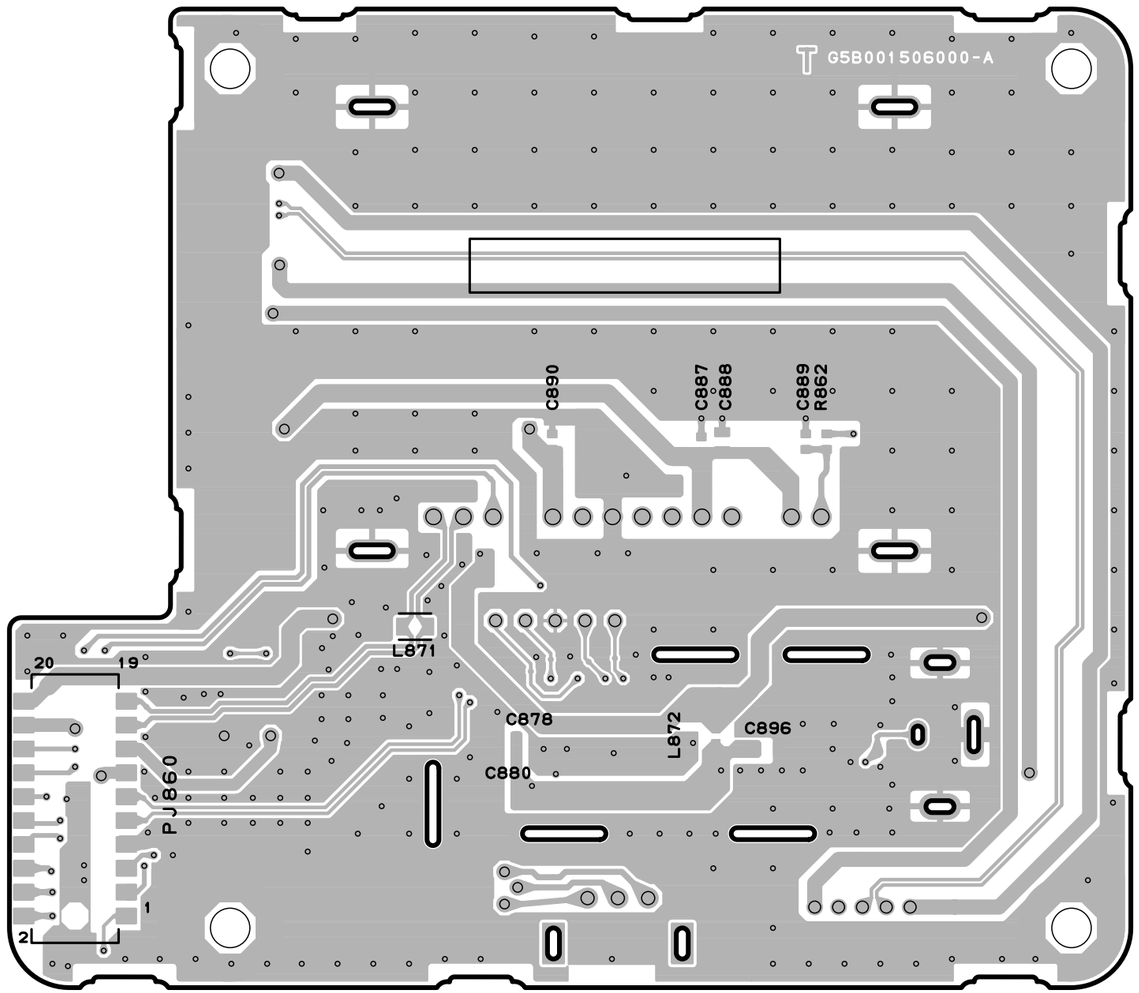
C2541

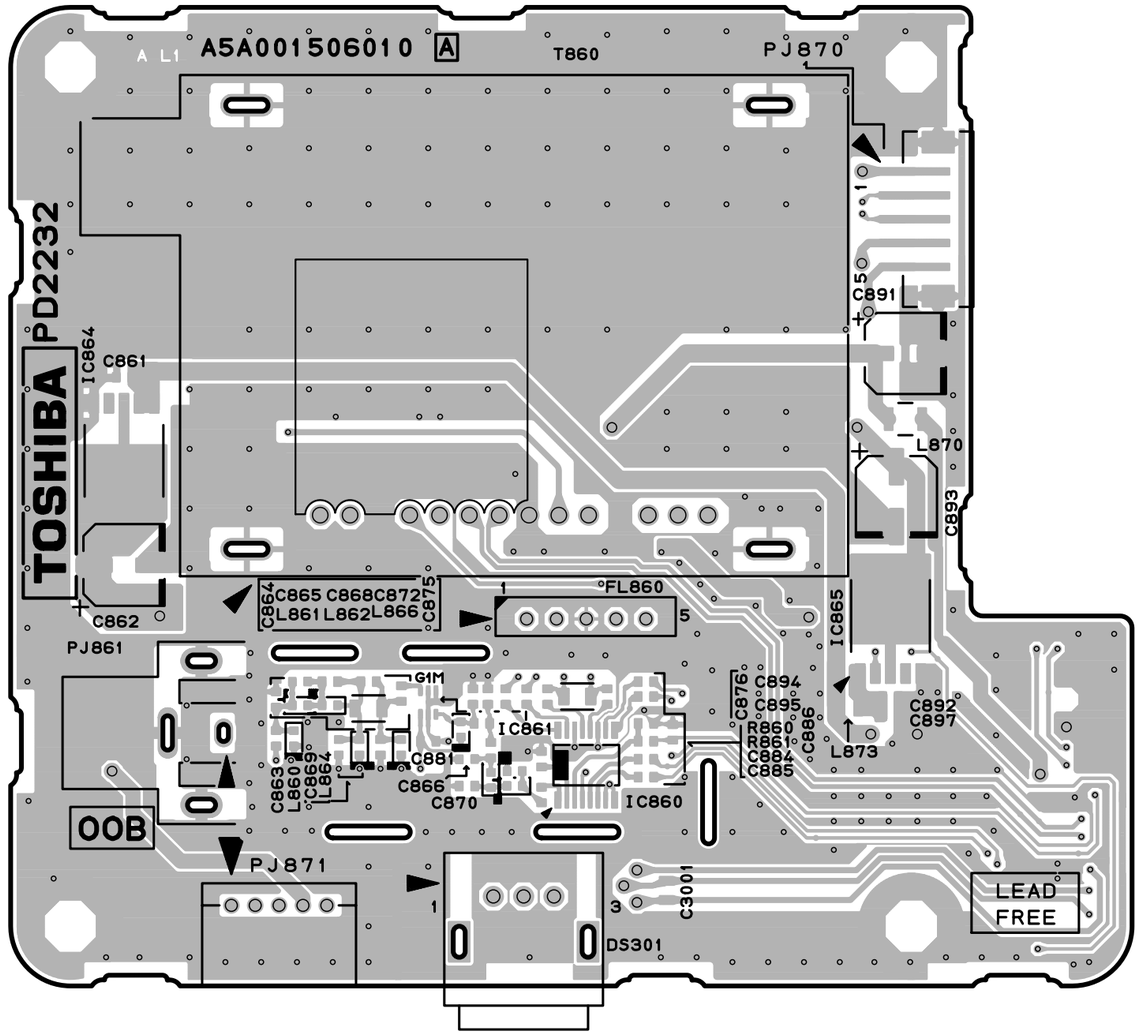
D-TUNER BOARD PD2301A1 (U103)

BOTTOM (FOIL) SIDE

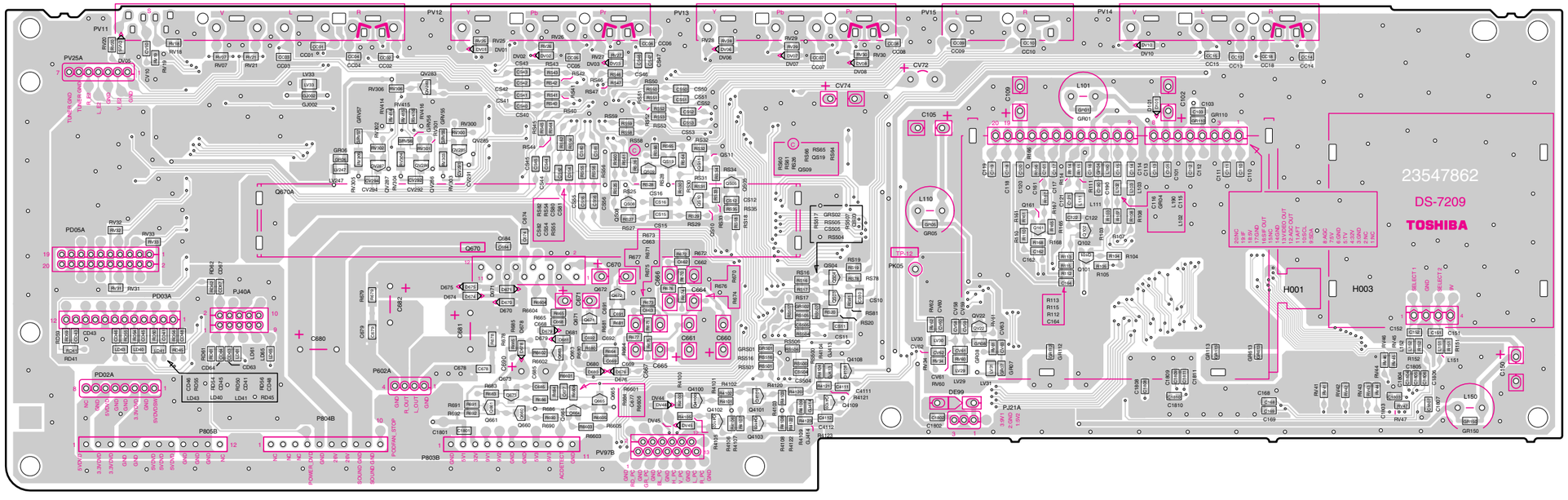


D-TUNER BOARD PD2301A1 (U103)

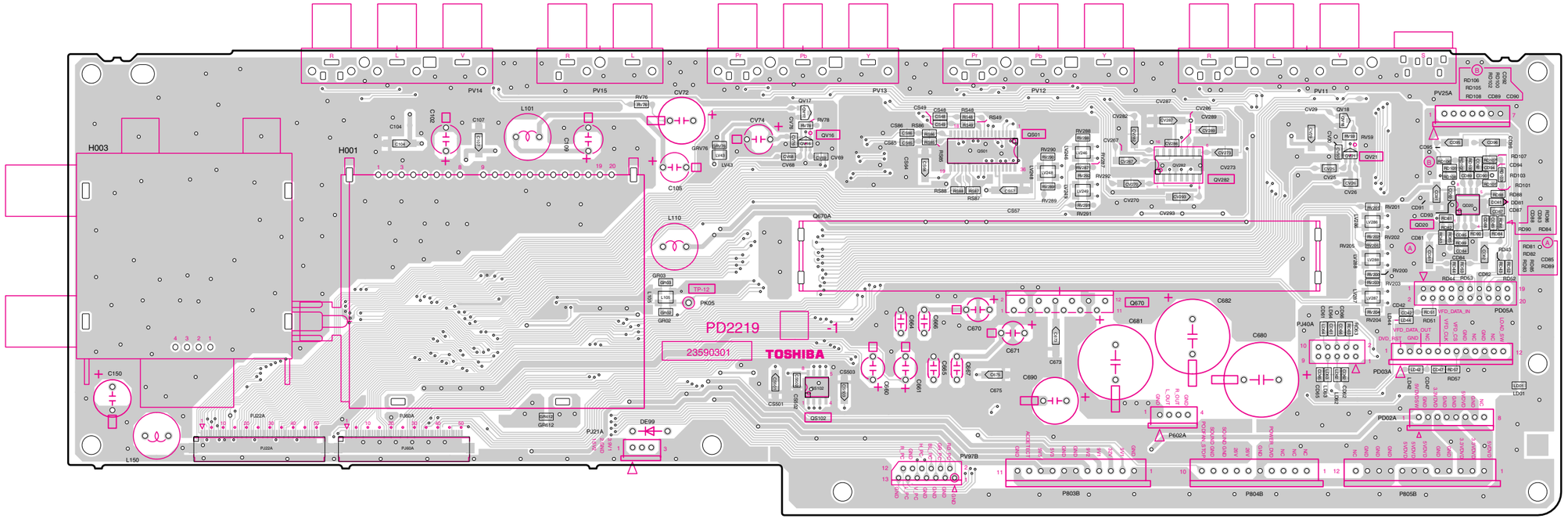
TOP (COMPONENT) SIDE



TN/AV-AOUT BOARD PD2219A1 (U104A) BOTTOM (FOIL) SIDE

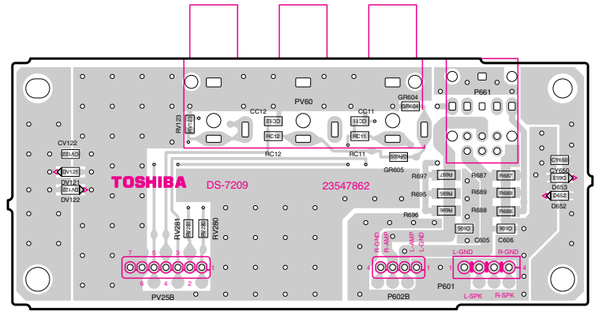


TN/AV-AOUT BOARD PD2219A1 (U104A) TOP (COMPONENT) SIDE



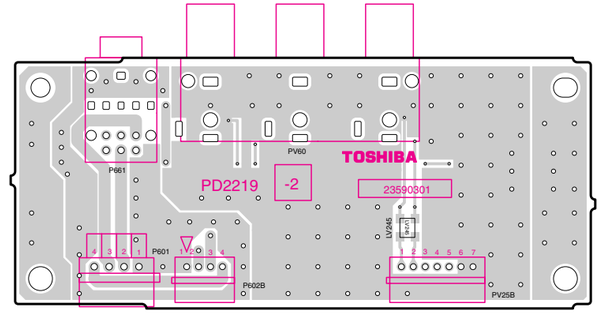
FRONT AV BOARD PD2219A2 (U104B)

BOTTOM (FOIL) SIDE



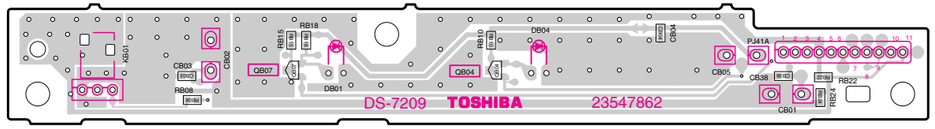
FRONT AV BOARD PD2219A2 (U104B)

TOP (COMPONENT) SIDE



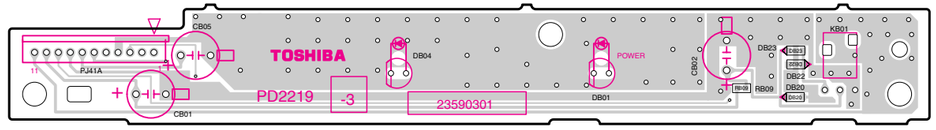
LED-RMT BOARD PD2219A3 (U104C)

BOTTOM (FOIL) SIDE



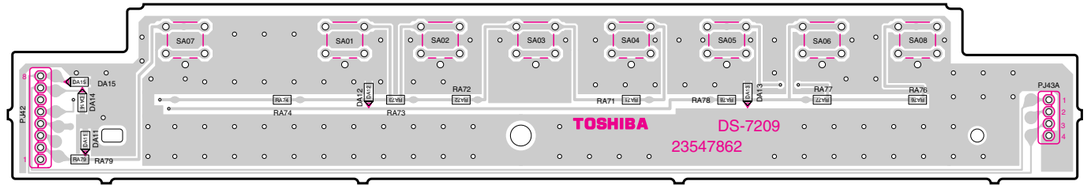
LED-RMT BOARD PD2219A3 (U104C)

TOP (COMPONENT) SIDE



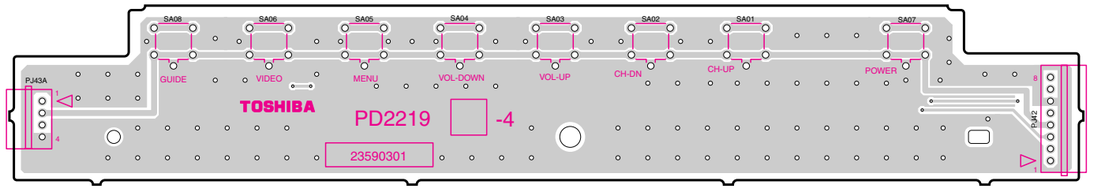
KEY-SW BOARD PD2219A4 (U104D)

BOTTOM (FOIL) SIDE



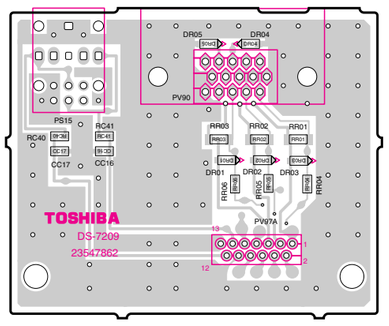
KEY-SW BOARD PD2219A4 (U104D)

TOP (COMPONENT) SIDE



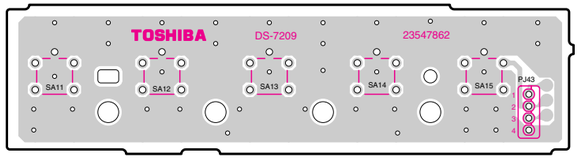
PC-IN BOARD PD2219A5 (U104E)

BOTTOM (FOIL) SIDE



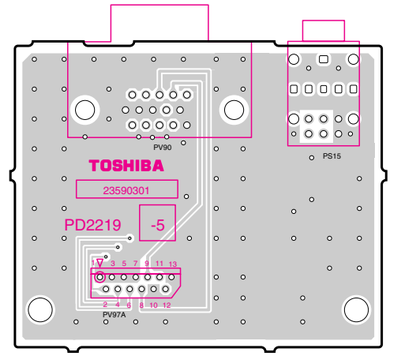
DVD-KEY BOARD PD2219A6 (U104F)

BOTTOM (FOIL) SIDE



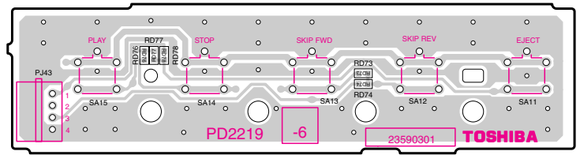
PC-IN BOARD PD2219A5 (U104E)

TOP (COMPONENT) SIDE



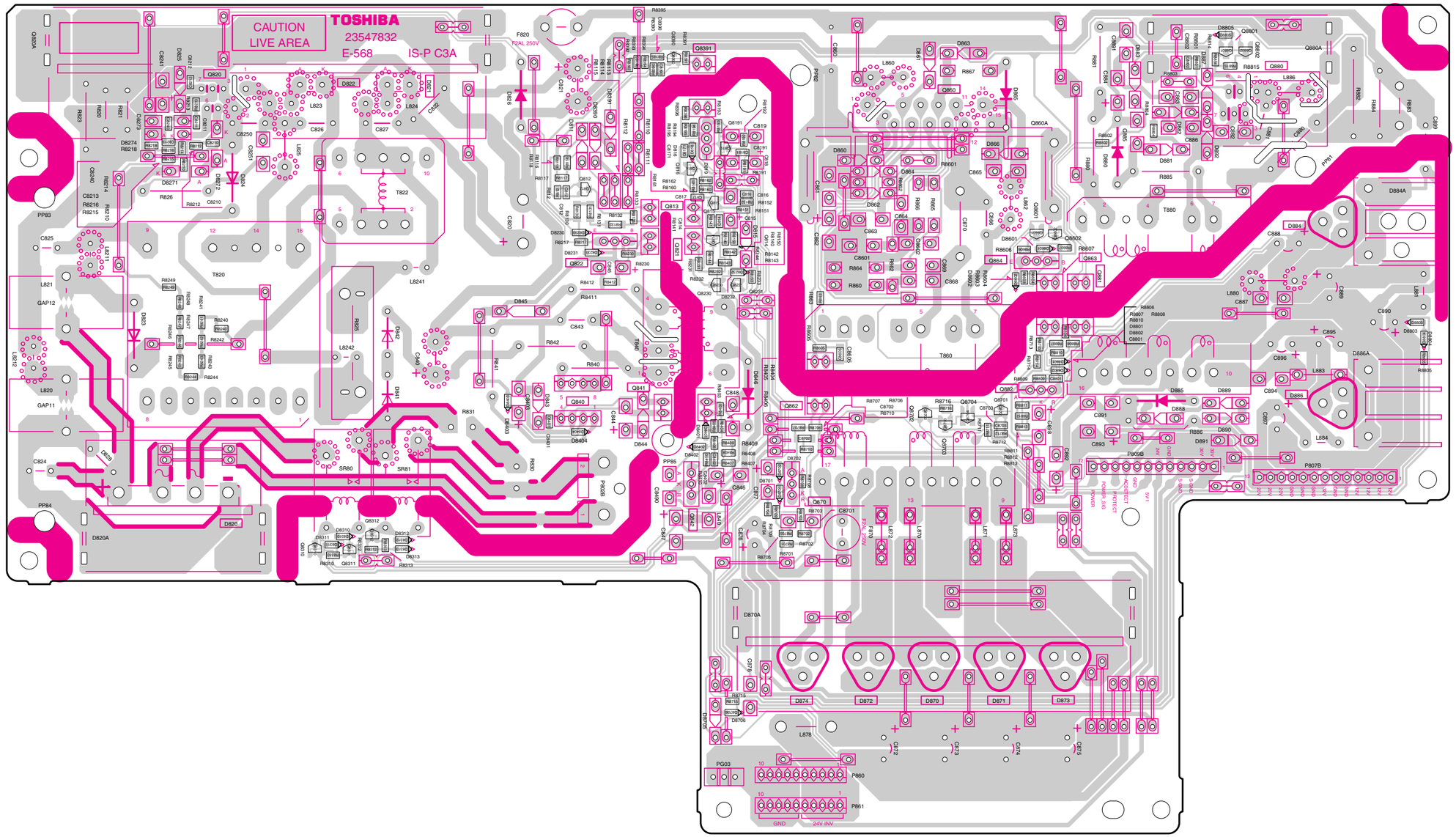
DVD-KEY BOARD PD2219A6 (U104F)

TOP (COMPONENT) SIDE

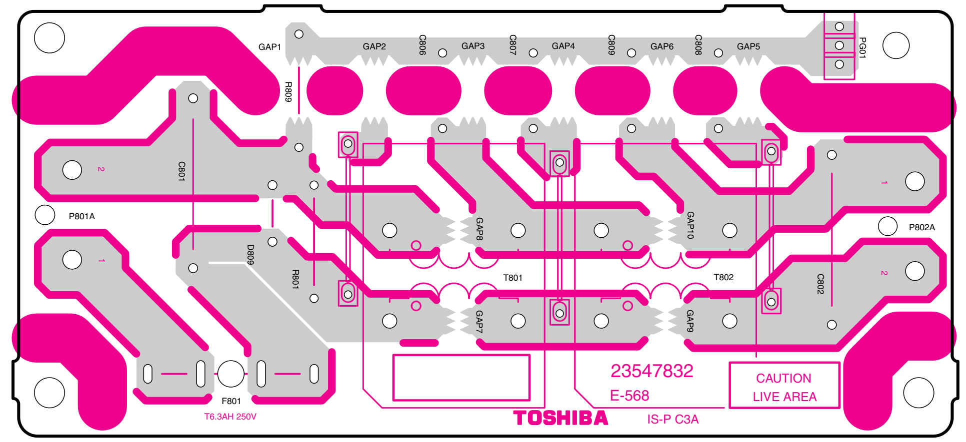


POWER BOARD PD2171C1 (U801)

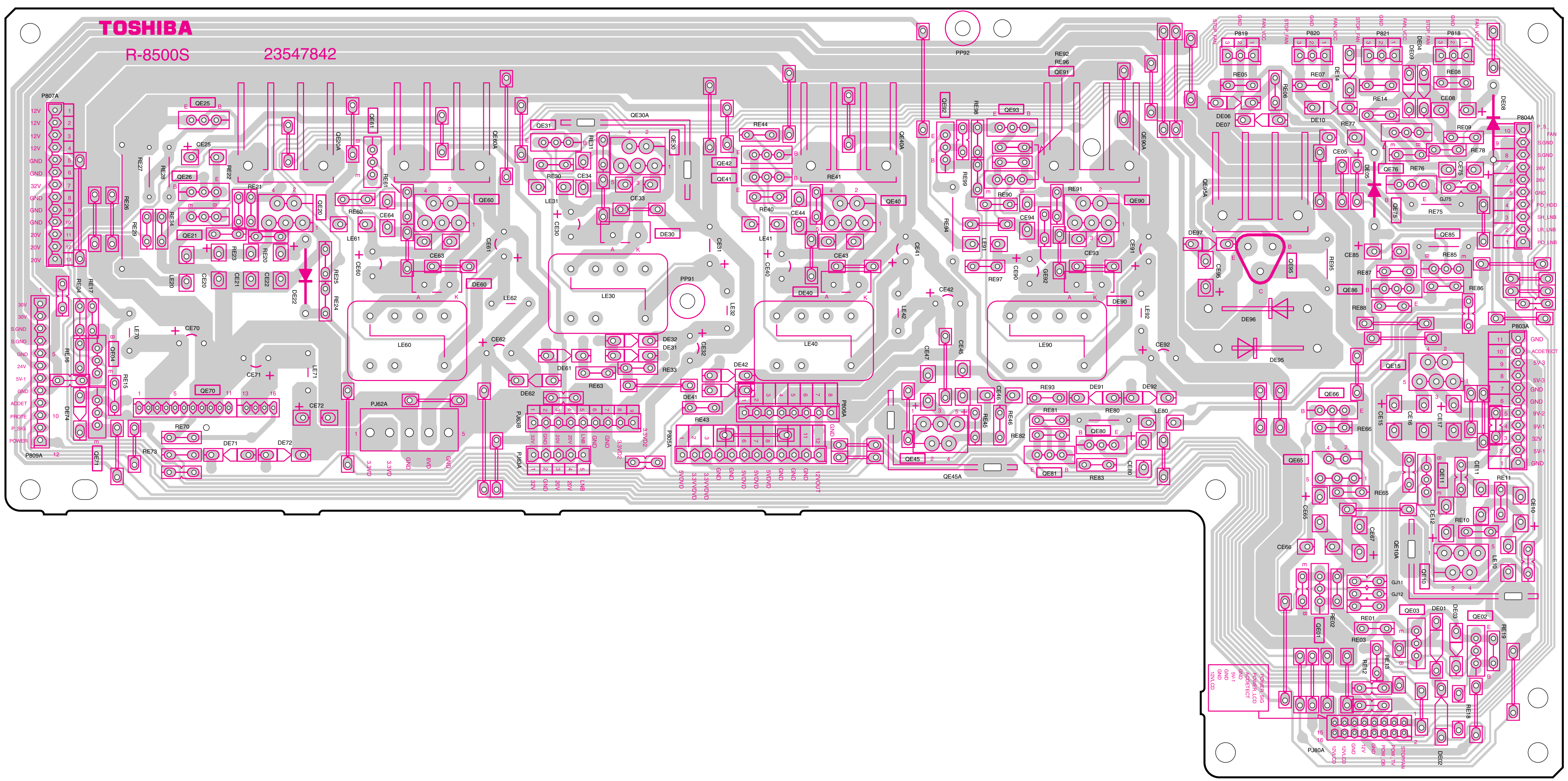
BOTTOM (FOIL) SIDE


TOSHIBA
23547832
E-568
IS-P C3A
CAUTION
LIVE AREA
F820
T2AL 250V
D820
D820A
D870A
D874
D872
D870
D871
D873
P860
P861
PG03
GND
24V INV
POWER
PROTECT
5V1
GND
3V3
GND
3V3
GND
3V3

AC-IN BOARD PD2171C2 (U802) BOTTOM (FOIL) SIDE



LOWB BOARD PD2189B1 (U803) BOTTOM (FOIL) SIDE



SCHEMATIC DIAGRAM

MODEL : 32HLX95

WARNING : BEFORE SERVICING THIS CHASSIS, READ THE "SERVICE SAFETY PRECAUTIONS" ON PAGE 3 OF THIS MANUAL.

CAUTION : The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the SERVICE SAFETY PRECAUTIONS on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   —|+|— Electolytic capacitor —|M|— Mylar capacitor
3. The parts indicated with " ⚠ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 220 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

■ **SCHEMATIC DIAGRAM STRUCTURE:**

TN/AV A-OUT
- CONNECTOR [SHEET-1/7] 1/134
- AV TERMINAL [SHEET-2/7] 2/134
- RF-SW & TIF [SHEET-3/7] 3/134
- A-OUT [SHEET-4/7] 4/134
- VIDEO-SW [SHEET-5/7] 5/134
- AUDIO-SW [SHEET-6/7] 6/134
- DVD OP AMP [SHEET-7/7] 7/134

FRONT-AV 8/134
LED_RMT 9/134
KEY 10/134
PC-IN 11/134
DVD-KEY 12/134

POWER
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AC-INPUT 20/134

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- MPEG Enc. (POWER) [SHEET-253] 99/134
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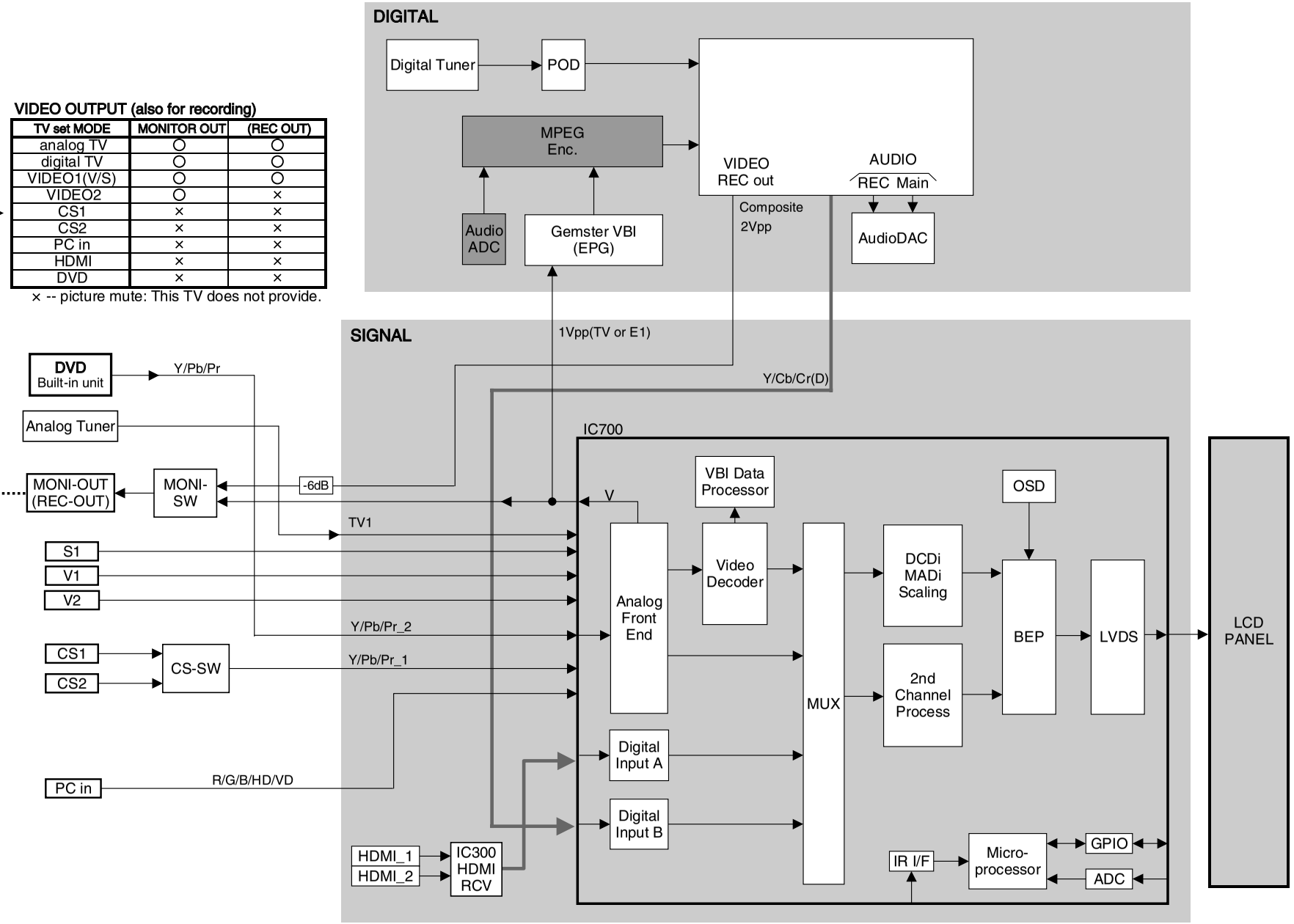
CIRCUIT BLOCK DIAGRAM

VIDEO OUTPUT (also for recording)

TV set MODE	MONITOR OUT	(REC OUT)
analog TV	○	○
digital TV	○	○
VIDEO1(V/S)	○	○
VIDEO2	○	×
CS1	×	×
CS2	×	×
PC in	×	×
HDMI	×	×
DVD	×	×

× -- picture mute: This TV does not provide.



TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN